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Original Lectures.

ARTICLE I.

PITYRIASIS RUBRA.—Lecture delivered Nov. 22, 1880, at the Clinic, Rush Medical College. By James Nevins Hyde, M.D., Professor of Skin and Venereal Diseases, Rush Medical College. Reported by Dr. W. P. Verity.

Gentlemen:—Some of you were present in the neighboring necropsy theater of the Cook County Hospital, when I had the opportunity of examining the dead body of a man, with reference to whose case I desire to make some remarks this afternoon. Though requested by my colleague, in whose charge this patient had been, to examine the latter during life, I was unable to be present before the date of his death.

According to the statements of the hospital authorities, this patient had been a laboring man, was 32 years old, and a native of the State of New York, where he had lived up to within a very recent date. His father was killed during the late war, his mother died of some unknown disease at the age of 63, and he had three brothers and two sisters living, all in good health. An

attack of scarlatina in childhood had resulted in excessive deafness which made it difficult to communicate with him ; and, later in life, he had suffered from typhoid fever without appreciable sequelæ. Two years ago, he considered himself in good health, but soon after this he noted the appearances, first upon his trunk and later upon his extremities, or from fifty to seventy-five, elevated cutaneous lesions which developed in succession. About eight months ago, there was extensive scaling of the surface of the body with an accompanying color change in the skin, which had been originally of a fair tint. When admitted to hospital, November 1, it resembled that of an octoroon, the nodules or "tubercles" referred to before, still appearing on its surface. So extensive was the exfoliation of the epidermis, that large handfuls of scales could be gathered from his bed each morning, the desquamation being most distinct on the dorsum, elbows and popliteal spaces. About the neck, hips, elbows and shoulders, fissures formed in the cuticle, which bled when irritated. A bed-sore formed during his illness, between the shoulder-blades, where several of these fissures had coalesced and where "tubercles" had existed. His emaciation was extreme and his weakness increased till locomotion became impossible. His tongue was thickly furred, his voice hoarse, appetite poor, and his sleep greatly disturbed by the distress occasioned by the itching of his skin. Evidence of disorder of the lungs, liver and spleen was wanting, but a systolic cardiac murmur was audible. The highest temperature attained during his stay in hospital was 100° F., and the most frequent pulse-beat 104 to the minute, though in both respects the normal standard was observed during the periods of comparative comfort. During the febrile exacerbations, there was considerable thirst.

He grew gradually weaker till an obstinate diarrhœa supervened, the fatal issue being announced by three separate convulsions in as many hours, on the afternoon of November 9. In the last of these he died, the relaxed sphincters permitting exit of the contents of the bladder and bowel, while the legs were flexed upon the thighs, and the thighs upon the abdomen.

A post-mortem section was not permitted, but the body was examined by me, almost as soon as cadaveric rigidity had occurred. The general color of the skin was very suggestive of

the mulatto, and this was true of the entire surface. There was marked emaciation but no œdema of the lower extremities. The hair was thin, dry and short, and the expression of the face, still evident after death, pinched, anxious and worn. The entire surface of the body was, to a greater or less degree, covered with thin, dry, papery scales, grayish-white in color, which could be readily removed from the integument by passing the finger over them, and which, in places, were heaped up in lamellæ, especially over the scapulæ, hips and thighs. The skin did not seem to have been infiltrated to a marked extent, though the post-mortem evidences of such a condition would not have been perfectly appreciated. Here and there the sites of the fissures, described during life, were manifest, and the resulting bed-sore between the shoulders, was marked by a limited loss of tissue.

The so-called "tubercles," split-pea to marble sized elevations of the integument, were sparsely and unevenly distributed over the trunk and extremities, chiefly on the anterior and lateral aspect of the body, none whatever upon the face. When touched, these seemed to be, on pressure, moderately firm, but, detecting a softer point at the summit, I incised several, and thus gave exit to a quantity of fluid pus. The "tubercles" were really circumscribed subcutaneous abscesses, projecting upward through the skin proper. In some the subcutaneous cellular tissue had been involved to a greater extent than the size of the phlegmon would indicate when viewed superficially, for from several of smaller size, there flowed more than an ounce of matter.

The chief objective signs of disease, post-mortem, were, however, the singular pigmentation of the entire surface, and the universal exfoliation of the epidermis, in quantities sufficient to cover the hands passed over the surface.

An accurate post-mortem diagnosis of disease, is often as useful for the living as it is needless for the dead. In a case of disease of the skin, such a diagnosis is the more difficult to establish as the fluids which once circulated are at rest, and all the pathological processes ended. We are then not in the presence of an actual disease, but confronted with the imprints merely, of a disease which has vanished. In the case of several affections of the in-

tegument, as for example, the hyperæmiæ, even these imprints are removed with the life of the patient.

I think that the facts in the case described, justify us in believing that the patient, when living, suffered from pityriasis rubra, a disease whose extreme rarity, both in this country and abroad, renders its distinct recognition difficult and not unattended with a certain element of doubt. Since first described by Devergie, it has been the subject of observation and study by the late Prof. Hebra and Prof. Kaposi, of Vienna; by Professors Duhring, of Philadelphia; G. H. Fox, of New York; Drs. Guibout, of Paris; Jamieson, of Edinburgh, and others. If we accept the facts as reported by these authors, and by their aid interpret the utterances of the great master in dermatology, we must admit that the term pityriasis rubra should be extended to a wider range of phenomena, than the latter was at first disposed to allow. His three cases, all terminating fatally, were those of patients whose sole skin symptoms were, a crimson to pale-yellow tinting of the integument, this coloration being indistinguishable after death, and free exfoliation of large masses of dried epidermic plates. In all, cachexia was strongly marked. The itching was slight, and there was no infiltration in, nor secretion from, the skin. But in the case reported by Prof. Duhring, the skin *was* infiltrated. some fissures were noted, there was moderate itching, and decided involvement of the hair and nails. At the date of this report, a fatal result had not occurred. Under the title of "general exfoliative dermatitis,"* Jamieson describes a series of very interesting cases, which serve to extend still further our knowledge of the history of this disease and to aid in an appreciation of its variations from type. In the first of these, there was the same mulatto-like pigmentation, which was apparent, both before and after death, in the skin of the body examined by ourselves. There was also in Jamieson's patient, infiltration, extensive desquamation, and dusky redness of the surface, apparently complete recovery resulting. In his second case, fissures are described, and an accompanying diarrhœa. In a third, itching was a prominent symptom. In the last, there were successive

* *Ed. Med. Jour.*, April 1880, p. 879.

crops of imperfectly formed bullæ, which burst before becoming tense, the disease terminating fatally. Kaposi reports one case of recovery, and admits that the itching may be at times quite severe, and that fissures and infiltrations may be consequences of the process.

These cases, considered together, seem to me to justify the conclusion already stated, respecting the nature of the disease from which our patient suffered when alive. The question of diagnosis, however, involves the necessity of considering, in this connection, another disease, one also accompanied by epidemic exfoliation, and always, according to Hebra, of fatal issue, viz., pemphigus foliaceus. In the latter, crops of reddish or yellowish bullæ occur, usually not tense, their walls slightly corrugated, the injected vessels of the base showing through the thin layer of fluid contained in the bleb. The latter dries eventually into effete masses, said to resemble flaky pie-crust, and general exfoliation ensues. The health fails, as the disease progresses, and fresh crops of bullæ appear, diarrhœa supervening as a frequent epiphenomenon.

Had then this patient of ours, when living, the symptoms of this curious and equally rare disorder? I am inclined to think we should answer, both yes and no. Unquestionably, the appearance of the multiple subcutaneous abscesses suggests to the mind the ill-conditioned bullæ of pemphigus foliaceus, but then, in the form we have described, the roof-wall was constituted of the entire thickness of the epidermis. It was, thus, opaque, entirely obstructing the view of any vascular elements, were there such at the base of the lesion, and was superimposed upon an abundant thick pus, not the serum of the pemphigoid lesion. The circumscribed elevations of the epidermis, produced by the projection of these abscesses, were, moreover, of the color of the unaltered skin, and their creamy contents did not, by drying, furnish the material exfoliated from the surface, this last having evidently a much more superficial origin. The occurrence of multiple subcutaneous abscesses in any given form of disease, seems to be rather an accidental than an essential feature of any of them. Given a broken-down and depraved constitution, a profound change in the nutritive processes going on in the skin, severe or

even moderate itching, associated with irritation of the surface by scratching with the finger-nails, and the complication named need not surely be regarded as at all extraordinary. We notice similar results in certain forms of eczema, in hereditary syphilis, severe acneiform lesions of the face, and in several of the benign affections of the scalp. In the present case, it is noteworthy that almost all of the abscesses occurred on those parts of the body most accessible to the hands.

At the same time, I am inclined to believe that the conclusions of Jamieson are entitled to consideration. Intermediate forms between typical pityriasis rubra and pemphigus foliaceus, should not surprise us. These words are, after all, but convenient titles under which we classify our facts as we gather them in the close observation of the several disorders of the integument. Jamieson regards the last mentioned disease as allied to, if not identical with the former, occurring in a more acute form than in that chronic superficial dermatitis, characterized by cuticular exfoliation, of long duration, rebellious to treatment, and frequently terminating fatally.

If there be such intermediate forms, the symptoms we have been considering should be assigned to such a category. The relatively brief time during which our patient suffered from his disease should not be forgotten, nor the febrile exacerbations revealed in his temperature record, nor yet the speedily manifested gravity of his symptoms, declared by the rapid failure of the powers of life. These all point to pemphigus foliaceus, while the symptoms of pityriasis rubra, as I have attempted to outline them, were no less prominent. The etiology and pathology of the two affections are equally obscure, and, considering the little that is known of the exact nature of each, we are justified by the facts in concluding that the two are expressions of a profound disturbance of the economy, possibly associated with lesions of other organs, of as great importance as the skin itself, the cutaneous manifestations approaching or departing from the type described by authors, as circumstances may determine. The nervous centers may be primarily at fault, but of this, in the absence of all observation and fact, we are not assured.

Few other diseases can be confounded with these, if we regard

the feature of gravity imprinted on each, at some period in its course. I have heard that in this case a suggestion was made that the patient was leprous, and the marked pigmentation of the skin might have lent color to such a supposition. On hearing this, I remarked, at the time, that the so-called "tubercles" were not situated upon the face and forehead, where they are usually to be recognized in tubercular forms of leprosy; but the prompt discovery of the real nature of these abscesses dissipated at once the possibility of such an error. Leprosy in any form is, moreover, rarely fatal in such a relatively brief period of time, and when it furnishes a history of previously existing bullæ, we are tolerably sure to find distinct traces of these in variously shaped and sized atrophic patches, usually insensitive to the thrust of the lancet, and more pigmented in center or periphery than the surrounding integument. The hyper-pigmentation of leprosy is disposed with great irregularity, and rarely presents to the eye the uniformly-diffused, mulatto-like tint recognized in this case. The bullæ of anæsthetic leprosy are, in my observation, of deeper origin than those of pemphigus, and have a thicker roof-wall and less vascular floor. The contents, too, are usually limpid, and not decidedly purulent. The hoarseness of the voice also, in this case, lent some color to the leprous hypothesis; but you remember that we recognize this symptom in several other disorders accompanied by skin lesions, as, for example, syphilis, variola, scarlatina, lupus and carcinoma. Nothing but the discovery of leprous tubercles in the larynx would be sufficient, in the absence of other unmistakable symptoms, to establish the fact of leprosy. Hoarseness is sufficiently common in states of general adynamia, in emotional excitement, and even as a result of the internal use of an opiate. The debility of a patient affected with pityriasis rubra or pemphigus foliaceus, might be sufficient to produce this effect, but we can well understand how, in either case, a disease which is accompanied by an intestinal catarrh might display lesions of the mucous membrane of the respiratory tract distinguishable with the laryngoscope.

If this be indeed the grave picture of pityriasis rubra, what then is the nature of the cases, incorrectly designated by that name, of which we hear verbal accounts almost every year, the

reports of which are not infrequently printed in the journals of medicine? Several such have been observed in this city, and of these a certain proportion have come under my own observation. I think that you will find the immense majority of them all to be either cases of psoriasis diffusa or of extensively-spread eczema squamosum. A few years ago I was called to see such a case in Mercy Hospital. The patient was a well-developed healthy male, who was shedding his epidermis freely from every portion of his integument. His bed-clothing was filled with scales, and the mere gentle passage of the hand over the surface of his skin was sufficient to induce a shower of pulverulent flakes. The integument beneath these was smooth, shining and crimson-hued, without a trace of fissure or sign of infiltration. The itching was by no means severe. It proved to be an aggravated form of psoriasis, the patient recovering rapidly under hospital treatment, showing characteristic palm-sized patches of the disease before he was dismissed.

Nearly of the same character was the case of a patient shown in this clinic last year, the slight difference between the two being due to the fact that, at the date of examination of the latter, the entire surface was not involved, though there was a history of such involvement. Recovery was prompt and without singularity. Another instructive case I observed in private practice, that of a young man, whose epidermis, when he came to me, was the source of an abundant dry, papery scaling, at every point of the surface of the body, the skin beneath being smooth, crimson-hued and very slightly infiltrated. The itching was of a mild character. He improved while wearing india-rubber under-garments, and taking arsenic, a remedy which, I may say in passing, has no beneficial effect upon pityriasis rubra, though administered in the largest doses and for the longest periods of time. This young man's disease relapsed, as is often the case in psoriasis, and the second efflorescence was in the form of perfectly typical lesions of psoriasis guttata. In neither attack was there the slightest interference with the general health.

It is proper to call your attention here to the fact that Dr. Tilbury Fox, though a careful observer and a dermatologist of experience, was unquestionably in error when he wrote that

psoriasis never involved the entire surface of the body. My personal experience in these and a few other cases would have certainly convinced me of this, even if I had not seen a formal statement of the reverse of the proposition in the language of Prof. Hebra.

Personally, I cannot say that I have ever seen a case of squamous eczema which would suggest the disease we have under consideration, though such are described. A patient affected with universally diffused eczema was shown me last year by a student of this class, and the sick man was one of the most pitiable objects to be seen. His dull red skin was scaling extensively, but also weeping at innumerable points, the syrupy ooze drying here and there over the surface into characteristic eczematoid crusts. The infiltration was extensive, and the itching simply frightful. There is one tolerably pronounced feature of all cases of this class, which you will scarcely fail to notice. It is that the patient thus affected does not accommodate himself to his disease, as do the others. His skin is sore, tender, and exquisitely sensitive. He is apt to be almost as careful in the movements of his body and in the management of his eczematous limbs as if he were the subject of a fracture or a dislocation. While patients affected with this spurious "pityriasis rubra" (in other words, with exaggerated or diffuse psoriasis), will readily get out of the bed when requested to do so, will stand painlessly before their examiners, and assume such postures at the request of the latter, as best permit of a complete survey of the integumentary surface.

In pityriasis rubra, the prognosis is, you need not be told, unfavorable; and the treatment correspondingly unsatisfactory. It would be proper to apply bland oils and soothing unguents to the surface in order to protect the skin of the patient who is engaged in a labor aptly termed by Guibout "gigantesque." Such a course will merely assist in shielding from the inhospitable atmosphere the shivering victim who is involuntarily engaged in stripping himself of his epidermis. Internally the arsenical preparations should be avoided, and such tonic and roborant measures instituted, both as to diet and medicine, as are best calculated to sustain and invigorate the failing vital forces.

Original Communications.

ARTICLE II.

THE VALUE OF HOMATROPINE IN OPHTHALMIC PRACTICE. By
F. C. HOTZ, M.D., Chicago.

This new mydriatic, which was briefly noticed in the November number of the JOURNAL AND EXAMINER (p. 477), is destined to play a prominent part in ophthalmic practice. It seems to be just the remedy long wanted for the purpose of certain examinations of the eye, and to close an unpleasant gap in the small list of useful medicines for local applications upon the eye.

The form in which it is sold* and used, is the hydrobromate of homatropine. This salt forms small, transparent, needle-like crystals, which are readily dissolved in water. The solution is perfectly clear and colorless, and not liable to spoil. When dropped upon the conjunctiva of the lower lid, it produces some congestion of its blood vessels, and a peculiar, sometimes slightly smarting sensation. One gentleman compared the sensation to that created by very weak sulphuric acid upon the tongue. In every instance this slight irritation subsided spontaneously inside of fifteen minutes.

Its effect upon the eye is exactly that of a solution of sulphate of atropia—it dilates the pupil and suspends the power of accommodation by paralyzing the ciliary muscle. And still the two mydriatics show a remarkable difference in their action, inasmuch as the effect of homatropine subsides in twenty-four hours, while the effect of an equally strong solution of sulphate of atropia lasts many days.

* It can now be obtained of Messrs. Gale & Blocki, 85 Clark street, in this city.

When a drop of a one per cent. solution of atrop. sulph. (gr. v, ad. ℥j) is put in a healthy eye, the pupil shows the first sign of dilatation within fifteen minutes, and complete expansion in twenty or twenty-five minutes. The full mydriasis lasts about forty-two hours, but the pupil does not recover its normal size and mobility until the eleventh or twelfth day.

A solution of 1-18 per cent. (gr. j, ad. ℥iv) produces a good dilatation of the pupil in thirty minutes, and complete mydriasis in sixty minutes, and the effect of this weak solution even is visible till the seventh day.

In order to limit the effect to twenty-four hours, it is necessary to use a solution of the extreme attenuation of 1-144 per cent. (gr. j, ad. ℥xxx), which, however, produces only an incomplete mydriasis, after forty to sixty minutes,* and does not affect the accommodation in an appreciable degree.

Homatropine, on the other hand, manifests a tendency in the opposite direction; its effect is short lasting, and we can, it seems, scarcely make its solution strong enough to prolong its effect beyond twenty-four hours. A few observations, selected from a series of experiments with solutions of various strength, may serve to illustrate it.

1. *Observation with a five per cent. solution.*—When I first received a small quantity of homatropine, the solution was made five per cent. instead of one per cent.; but I did not discover the mistake until I had used it in the eye of a young lady for the purpose of paralyzing the accommodation. The lady, sixteen years of age, came to the city to be relieved of convergent strabismus of a high degree. The sight of each eye, tested before the operation, was found 20-30; it was made worse by convex spherical glasses, although the ophthalmoscope revealed a high degree of hypermetropia; nor was it benefited by convex cylindrical glasses, although the existence of astigmatismus was established by certain tests.

Four days after the tenotomy of both internal recti muscles, another examination of the sight had the same result. I then put one drop of the solution of homatropine, just received, in

* See Donders, "Anomalies of Refraction and Accommodation."

each eye. It smarted a little, and the conjunctiva became flushed. In ten minutes the pupils began to expand, in twenty minutes they were completely dilated; and in thirty minutes, when the sight was tested, the accommodation was completely suspended; each eye showed hypermetropic astigmatismus corrected by $+ 8 \text{ C} + 36 \text{ c}$, and $V = \frac{20}{20}$. I saw the patient again two days later; the pupils of her eyes were small, and readily responded to the influence of light; and she could read the finest type (Jäg. 1) with $+ 10 \text{ C} + 36 \text{ c}$, which combination suited her eyes best also for the distance.

2. *Observation with two per cent. solution.*—A boy, eleven years old, delicate and scrofulous, complained that when reading, his eyes often ached (they felt as if he "had sticks in them"), and the letters got blurred. There was considerable hyperæmia of the tarsal conjunctiva, with enlarged follicles in the lower retro-tarsal folds. $V = \frac{20}{20}$, worse with $+ 60$; but he read Jäg. 1 no nearer than eight inches. Ophthalmoscope showed a normal fundus and $H \frac{1}{36}$. Homatropine was put in the eyes at 11 o'clock a. m., and began to enlarge the pupils at 11:10; at 11:20 complete dilatation and $H \frac{1}{50}$; at 11:30 $H \frac{1}{36}$; and at 12 o'clock also $H \frac{1}{36}$. I am informed that the pupils remained dilated until 6 p. m.; after that hour they slowly grew smaller, and recovered their normal size in the afternoon of the next day. In the morning of this day he could easily read ordinary print, and at noon the smallest print in the daily *Tribune*.

3. *Observation with one per cent. solution.*—On December 20, a young lady consulted me in regard to her eyes, which very often, in reading, get red, and smart, and overflow with tears. I found a marked degree of conjunctival hyperæmia, $M \frac{1}{50}$, $V = \frac{20}{20}$, and a normal condition of the fundus. For the purpose of ascertaining whether the slight myopia was real or due to spasm of the ciliary muscle, homatropine was used. At 11:20 a. m. two drops of a one per cent. solution were instilled in each eye; at 11:30, incipient dilatation of pupils; at 11:45, complete dilatation; at 11:50, accommodation paralyzed; cannot read ordinary print; M still $\frac{1}{50}$; at 12:30 p. m., $M \frac{1}{50}$, $V = \frac{20}{20}$; at 2:30, pupils still completely dilated; can read Jäg. 5 at eighteen inches, but no nearer; at 3:50 p. m., pupils showed a slight

contraction; Jäg. 3 at seven inches; at 7 p. m., pupils perceptibly smaller; Jäg. 2 at seven inches. At noon of the following day pupils had recovered their normal size and activity.

4. *Observation with one-half per cent. solution.*—Dr. T. W. Campbell, at the Eye and Ear Infirmary, kindly allowed his left eye to be used for the experiment. Tested before the use of homatropine, this eye was found emmetropic, with near point at eight inches, $V = \frac{20}{20}$. The doctor's age is thirty-six years. The instillation of homatropine caused a flushing of the conjunctiva and a peculiar sensation which the doctor compared with the sensation very weak sulphuric acid produced upon the tongue. 2:25 p. m., homatropine applied in left eye; 2:35 p. m., left pupil a little larger than the right, but still responding to light; 2:45 p. m., complete dilatation of pupil and paralysis of accommodation; $V = \frac{20}{20}$, emmetropia; could not read very large print (Jäg. 18), but read Jäg. 1 exactly at twelve inches with +12; if, however, the print was put half an inch nearer or further than twelve inches, he could not read it. At 4 p. m., the pupil showed the first indication of contraction, and the eye had recovered such accommodative power that it could see very large letters (Jäg. 19) at twenty inches; but after a few moments they became dim.

The doctor continued the reading tests, and furnished me with the following observations: At 5 p. m. he could read Jäg. 19; at 5:30 p. m., Jäg. 18; at 6:30 p. m., Jäg. 15; at 7:45 p. m., Jäg. 9; at 8 p. m., Jäg. 3; and on the afternoon of the next day, when I saw the doctor again, he could easily read Jäg. 1, although the left pupil was still a trifle larger than that of the right eye; the near point again at eight inches.

These observations, which substantially agree with the results of other experimenters, sufficiently illuminate the peculiar merits by which homatropine distinguishes itself from atropia. Both are equally prompt in dilating the pupil and in suspending the power of accommodation; but it requires almost two weeks for an eye to recover from the effect of a one per cent. solution of sulph. atrop., while the effect of a solution of homatropine of equal and even much greater strength subsides entirely within twenty-four hours. This rapid but brief effect of homatropine

at once determines its relation to atropia in ophthalmic practice. It cannot be used advantageously (and consequently will not displace atropia) in the treatment of iritis and kindred diseases in which a continued uniform mydriasis is of paramount importance. And this is a very fortunate circumstance for the patients, inasmuch as homatropine is a rather expensive medicine—one grain costs about seventy cents at wholesale, so that the prescription druggist would charge at least two and a half or three dollars for one ounce of a one half per cent. solution (which is the standard solution of sulph. atrop. usually employed).

But homatropine will be employed in lieu of atrop. sulph. whenever we desire to dilate the pupil temporarily for the purpose of ophthalmoscopic examinations, or whenever we wish to suspend the accommodation in testing the eye for certain anomalies of refraction. For such purposes homatropine is the mydriatic *par excellence*, and possesses great advantages over atrop. sulph. It removes many annoyances which patients had to submit to in using atropia. In order to protect his eyes with dilated pupils against the unpleasant or even dangerous effect of bright daylight, the patient has to wear dark glasses or to remain in a darkened room until the natural mobility and size of the pupil is restored. With atrop. sulph. it required from seven to twelve days; with homatropine hardly as many hours.

It is a matter of no small consideration for a business man to be deprived of the full use of his eyes for nearly two weeks; and I have often noticed the great reluctance with which he consented to the use of atropia during the examination of his eyes when he was informed of the inconvenience necessarily resulting from it. I have known people to defer the examination on this account many weeks, or to give it up entirely.

In the case of a child, people dislike very much the idea that it will be unable to attend school for nearly two weeks after atropia is put in its eyes.

And a very serious question, involving a great loss of time or money, or both, may be the application of atrop. sulph., if the patient come to town from a distant city. If his eyes need glasses for astigmatism, and were tested under the influence of atropia, he was left in this dilemma: either he might go home, to

return to the city after two weeks for the final examination, or he had to remain in the city two weeks, until the effect of the atrop. sulph. would have passed off, and his eyes would be ready for the final examination. This alternative was very disagreeable, but unavoidable—at least I adhere, in my practice, strictly to this rule: I do not order glasses for astigmatic eyes which have been examined under the influence of a mydriatic, without having had another examination after the effects of the medicine have entirely subsided. For the combination of glasses which corrects the astigmatism very nicely and accurately under the influence of atropia, very often needs some alteration to suit the eyes after the return of the accommodation. The first glasses may be theoretically correct; but the patient sees no satisfaction in knowing that, if he cannot use them. Suppose we have found a hypermetropic astigmatism corrected under atropine by $+8 \text{ } \ominus + 36\text{c}$, but after the return of accommodation the patient rejects these glasses because they positively dim his sight, while he can see perfectly well with $+10 \text{ } \ominus + 36\text{c}$. This patient would care very little to know that the first glasses are mathematically correct, as long as he cannot use them; he will consider the right glasses those which give him the clearest sight and the greatest comfort. For this reason I regard the final examination, after the activity of the pupil and ciliary muscle has returned, as necessary, if we wish to be certain that the prescribed glasses will give the patient the expected comfort.

This long delay of the final examination, together with other annoyances, is removed by substituting homatropine for atrop. sulph. In six hours the pupil has regained sufficient activity to render the eye all necessary protection against bright light; in twelve hours the accommodation has recovered such power that the patient can read and write tolerably well; and in forty-eight hours, at the latest, the final test in astigmatic eyes may be made, even when a strong solution of homatropine was used.

In the most instances a one-half per cent. solution will answer all purposes; it is strong enough to produce the desired enlargement of the pupil in fifteen or twenty minutes, and to paralyze the accommodation in thirty or forty minutes. Stronger solutions do not seem to take effect in a shorter time than fifteen or

twenty minutes, and for this reason we gain nothing by their use under ordinary circumstances. Only in cases of hypermetropia of young persons, and in astigmatic eyes where we have reason to suspect the existence of habitual spastic contraction of the ciliary muscle, the use of a stronger (two per cent.) solution is indicated in order to insure a speedy and complete relaxation of the ciliary muscle.

It has been stated by Prof. Ladenburg, the discoverer of homatropine, that it is not poisonous. I consider my experience too limited yet to venture an opinion on this point; but if homatropine really is non-poisonous, and consequently its use is not likely to produce any constitutional disturbances like atropia and duboisia, it has an additional advantage over its rivals, and may justly be placed at the head of the list of mydriatics.

ARTICLE III.

CURABILITY OF UTERINE DISPLACEMENT. By P. O'Connell, M.D., Sioux City, Iowa.

At a recent meeting of the Obstetrical Society of London, Dr. Graily Hewitt read a paper on Uterine Displacement. During the discussion of the paper some very strange opinions were expressed, and coming from old and experienced teachers are apt to mislead. Dr. Matthews Duncan said: "The treatment of displacement without descent, whether it was desirable or not, was an utter failure; and displacement was never cured, in the sense that the uterus afterwards remained in place without a pessary." With all due respect to the opinion of Dr. Matthews Duncan, I beg to say that the treatment of uterine displacement, in my hands and in the hands of my professional friends in Chicago, has been attended with most gratifying success; and, *in the sense that the uterus has remained in situ without a pessary*, the displacement *was absolutely cured*. All the distressing, and in some cases, dangerous symptoms passed away; the bowels became regular; menstruation became normal where before it was abnormal; the general health was entirely restored.

Until I read the astounding asertion of Dr. Matthews Duncan, I did not suppose there was any doubt of the curability of uterine displacements with pessaries. Fifteen years ago, displacements of the uterus were not supposed, except by a few, to give rise to serious trouble. Even to-day so high an authority as Dr. Duncan declares, "It would be nearer the truth to say it" (displacement) "had little or no importance." Mr. Thornton agreed with Dr. Duncan, and believed that cases complicated by descent "alone gave trouble or required aid;" while Dr. Savage said, "pessaries without stems merely kept the uterus out of the vagina." I believe it was the late Dr. Washington L. Atlee who declared that while he withdrew many pessaries, he never had inserted one, and had no faith in them. I am acquainted with a very distinguished physician and teacher in Great Britain who makes no pretense to a knowledge of gynæcology, has no faith in pessaries, and treats uterine displacements by simple replacement daily with his finger. Such sweeping condemnation of pessaries without at least a trial, is unphilosophical. Surely neither of the gentlemen named will say that epilepsy gravior and long-continued menorrhagia are of "no importance," or should go untreated. And yet I have encountered these conditions, as the result of the displacement, in the cases recited below, and there *was no descent of the uterus*. As ideas have changed on the utility of pessaries, so, too, the strong opinions now held and expressed by very distinguished writers, with regard to the incurability of displacement with or without descent, may have to be radically changed ere long. Such dogmatic assertions by well-known teachers sometimes acquire peculiar importance for the general practitioner when, in the hands of dishonest and evil-disposed parties, they are employed to sustain a suit for malicious malpractice. Hence I consider it a duty incumbent on those who are in a position to contradict such teachings to do so.

Unwilling to occupy much of your valuable space, I offer very short notes of a few cases *cured* in every sense of the word. While all were patients in private practice, all were obliged to do pretty hard work either as assistants in shops or in the management of their homes and families. All were permitted, without restriction, to attend to their customary duties after the insertion

of the pessary, and instructed to go out of doors daily for exercise. I confine no woman to the house after the insertion of a suitable pessary.

The few cases here given are of retroflexion alone, and the conclusions deduced from them apply equally to cases of the other displacements. The instrument employed in all the cases, save one, was that known as Smith's modification of the Hodge pessary. No woman was pronounced *cured* until it was ascertained by actual trial that she could dispense with the instrument. This is done by removing the pessary and permitting the patient to discharge all her duties as before. If, after the lapse of a few weeks, the uterus is found in normal position, as determined by the finger and the sound, the pessary is not re-introduced. My observation of these women extended over one year, the shortest, to four years, the longest, period after the removal of the pessary; and in no case was the displacement reproduced. Surely, a woman who has freely discharged all her duties for an entire year after the removal of a pessary, without any return of the displacement, is entitled to be called *cured*. If she cannot be called cured after that time, then I admit uterine displacements are incurable. I have seen many who are really incurable no matter what plan of treatment be employed, even while the uterus is free and easily raised into position. This is the experience of every man who deals with diseases of women. Is it, then, right to conclude that because some are, all must be incurable? The conclusion is absurd. The want of due care in selecting a pessary, in form and size, to suit each individual case, is also a cause of the distrust of pessaries. I have seen pessaries turn completely upside down or fall in front of the cervix when they should be the other way. The man who should employ so ill-fitting an instrument can meet with nothing but disappointment, and is pretty sure to be the first as well as the loudest in condemning pessaries.

In two instances only of my cases, case I and VII, was the displacement complicated by descent of the uterus, and in neither case did the descent cause any particular trouble.

Case I. Mrs. B, aged twenty-six, had three children; general health considerably below par; had an abortion in third month of pregnancy, eighteen months before coming under my care.

Doubtless the flexion happened then. Has prolapse, sometimes down to the vulva, owing to enlargement of the body of the uterus. Menses scanty. On July 27, 1875, I inserted a pessary, which she wore eight months continuously. On March 29, 1876, I withdrew the instrument against her wish, and never after re-inserted it. Menstruation became normal, and her general health entirely restored.

Case II. Mrs. K., aged thirty; one child. Flexion exists, most likely, one year. Patient so weak as to be obliged to resign her situation in a dry-goods establishment. During defecation, the contents of the bowel caused such intense suffering in the retroflexed fundus, that she voluntarily induced obstinate constipation. July 5, 1876, inserted a pessary, and withdrew it November 5, 1876. Her health was entirely restored, and she was able to resume her situation.

Case III. Mrs. E., aged twenty-two, married fourteen months; not yet pregnant. Eighteen months ago menstruation became irregular, with pain in the uterus, during defecation, the day before the flow appeared. Had suffered pretty severely from menorrhagia, for which she consulted me. Is much exhausted. Inserted a pessary, November 27, 1876. It was removed twice for trial during 1877, and withdrawn finally, February 28, 1878. Menstruation became normal; health entirely restored.

Case IV. Mrs. C., aged thirty; five children; had a miscarriage at seven and a half months, due to syphilitic infection by her husband. She suffered from menorrhagia and was extremely debilitated. Flexion exists six months. On February 8, 1877, inserted a pessary, and removed it February 14, 1878. Menses became normal, and health good. Had one child, at term, in March, 1880.

Case V. Miss D., aged twenty and a half, is quite anæmic and has a severe eczema. Three years ago amenorrhœa and dysmenorrhœa began; possibly flexion began then and was the cause of the menstrual difficulties. Inserted a pessary February 11, 1877, and removed it February 6, 1878. The anæmia disappeared and menstruation became normal.

Case VI. Mrs. O., aged thirty-seven, never pregnant; health fair, and menses regular. Had acute endo-metritis; after its

cure the uterus was found flexed, the flexion being only of a few days duration. Eight years ago, this lady had suffered for some months from acute retroflexion, caused by constipation. At that time she was under another physician's care, who did not suspect any uterine mischief for a few months, during which she had several attacks of *epilepsia gravior*. When the flexion was cured then by means of tents and a pessary, the epilepsy ceased and did not recur. Inserted a pessary February 4, 1878, and removed it on February 22, 1878.

Case VII. Mrs. L., aged twenty-seven, four children; nursing. Has prolapse, and much leucorrhœa; debilitated and hysterical. Flexion exists a year. Inserted a Hodge pessary on June 5, 1878, and removed it December 15, 1878, as she had "quickened," pregnancy having taken place during the use of the pessary.

Case VIII. Mrs. W. aged forty, a very large, awkwardly fat woman, and quite debilitated. Is twenty years married, but never pregnant. Suffered from frequent micturition for the past fourteen months. There is subacute vaginitis. Doubtless the flexion is as old as the vesical irritation. Menses regular. Inserted a pessary January 14, 1879, and removed it April 4, 1879. The vesical irritability passed away with the correction of the flexion.

With this case, I will close my communication, already, I fear, too long. Were it necessary, I could cite other cases equally interesting and important. From these cases I hope it is clear that *displacement* of the womb possesses *much* importance, and that, too, when there is no *descent* of the organ. In addition to these cases, an unmarried lady, a music teacher, came under my care quite recently, suffering from retroflexion with slight descent. The flexion was recognized six years ago, and may be of ten years duration. During that time she is afflicted with severe and very irregular epilepsy. A suitable pessary kept the uterus *in situ* after it was elevated. While the pessary was worn she had no epileptic paroxysm. On the removal of the pessary, the attacks recurred. The insertion and removal of the pessary was tried sufficiently often to prove that the flexion of the uterus was the cause of the epilepsy. She still wears her pessary; the

result, therefore, cannot be foretold so far as the effect on the flexion is concerned. Even if the flexion must remain uncured, and I suspect it is incurable in this case, the benefit of the pessary is well displayed by warding off the epileptic paroxysms, a matter of the very greatest, in fact incalculable, benefit to this lady.

I feel warranted in deducing the following conclusions from my experience:

1. Displacements of the uterus are, in the great majority of women, serious.
2. That descent adds but little, in many cases, to the gravity of the trouble.
3. That displacements can be cured, by suitable pessaries, in the sense that the pessary may be discarded after a time, and the uterus remain *in situ* without the support the pessary afforded—that the displacement is absolutely cured.

ARTICLE IV.

A CASE OF IRITIS SEROSA. By Dr. E. J. Gardiner, Assistant Surgeon for the Illinois Charitable Eye and Ear Infirmary.

Plastic iritis is so well characterized by its severe manifestations that the diagnosis is easy for any physician who has attended an ophthalmic clinic. The symptoms of idiopathic or plastic iritis are: pericorneal congestion, contraction and sluggishness of the pupil, posterior synechia, which makes the pupil irregular, discoloration of the iris, lachrymation and severe pain about the supraorbital region, sometimes extending to all the sensitive branches of the fifth nerve. If the disease is in its first stage, when the pupil is not yet contracted, the pericorneal injection not marked, and the pain not felt, some little difficulty may be found in making the diagnosis; this, however, is the exception, not the rule.

In iritis serosa the condition varies entirely. It is by nature an insidious disease, and may run its course, implicating both the ciliary body and the choroid, with such small manifestations, that

even the most experienced may be duped by the disease. Of course cases differ very much, and while one patient may present himself with an eye, the appearances of which would not lead one to suspect any trouble of the iris, another will present himself with a collection of symptoms, which will easily lead to the correct diagnosis.

Iritis serosa and hydromeningitis, are names given to a special form of iritis, characterized by a peculiar implication of the posterior layer of the cornea (Descemet's membrane), which becomes covered with little grayish spots, so loosely attached that a drop of water, allowed to flow over the membrane, will wash them away. These little spots sometimes group into a circle, but more frequently into a triangular form, the basis being directed toward the periphery of the cornea. There exists generally, a hypersecretion of aqueous humor, which not only increases the tension, but secondarily produces a slight dilatation of the pupil. The discoloration of the iris is not always found, and, although the pericorneal injection may be counted as a pathognomonic symptom, it is not always present. The plastic exudations forming synechia, so common in idiopathic iritis, are never found in serous iritis. The characteristic symptom of this disease is the punctured appearance of the posterior surface of the cornea. The little dots can be seen with the ophthalmoscope used for the upright image, but by focal illumination they can be better examined and located. This form of iritis is generally very refractive for treatment, and relapses are very frequent. During my assistantship to Dr. H. Knapp, of New York, I had occasion to examine several cases of this disease, among them, one of the insidious form; without this experience, I think that I would have been deceived by the following case:

Mr. M. P., age twenty-four, of strong constitution, neither smokes nor drinks, states that, about a week ago, he experienced a slight pain about his right supraorbital region, after which he noticed that the sight was blurred in his right eye. No change for the better having taken place during the week, he concluded to consult an oculist. *Stat. pres:* Conjunctiva slightly hyperæmic, no pericorneal injection; cornea clear, iris somewhat discolored, (patient states that it had always been of that color); pupil nor-

mal, reacting well to light. While making the ophthalmoscopic examination in the upright image, I noticed a peculiar dotted appearance of the cornea. With the focal illumination I found that these dots were situated on Descemet's membrane, and grouped in a triangular form, the basis directed toward the periphery of the cornea. They were so small however, that I was obliged to center all my attention to discover those situated at the vertex of the triangle. I found the fundus normal; tension was also normal; vision $\frac{30}{100}$; left eye normal, $V = \frac{30}{20}$. The patient stated that he could not bear a bright light with his right eye, and that *sometimes* toward the evening he experienced an uneasy sensation, with *a little* pain over the eyebrow. My mind was made up. The case before me was one of incipient iritis serosa. I instilled a couple of drops of a four-gr. solution of atropia, and was not much surprised to find the pupil very slow in dilating. After repeating the instillations three times the desired effect was obtained. Prescribed atrop. sulph. gr. ij to the ounce of water; calomel, gr. one sixth; three times a day internally. Two days afterward, I saw Mr. P., and found that the pupils had not entirely dilated. The dots on Descemet's membrane were more abundant and larger. No pain had been experienced since the first instillation of atropia. Calomel to be continued, and the atropia to be used, one drop every two hours until the pupil should be fully dilated, then one drop three times a day. Two days afterward, the pupil was fully dilated. From this time improvement continued very rapidly; so much so, that after six weeks' treatment, I considered the eye cured. The condition as noticed on my record book was, "No pericorneal injection, pupil fully dilated, no pain, very slight haziness of cornea; $V = \frac{30}{20}$." On account of the haziness and a few hardly perceptible dots on the cornea, I advised Mr. P. to continue using his two-gr. solution of atropia, and to still use a protective bandage, but to discontinue the iodide of potash, which he had been taking for about two weeks. I saw no more of him until about two weeks afterward, when he presented himself very much alarmed on account of the severe symptoms which had manifested themselves in his eye. He stated that improvement had continued since I last saw him, until the night previous, when he

was seized with severe pain in the eyeball and brow. The eye now presented a well-marked pericorneal injection. The cornea was hazy; the dots on Descemet's membrane were numerous and large. The details of the fundus could not be made out on account of the haziness of the cornea, the tension, which, during the previous attack had remained normal, had now increased to + 91. I instilled a one per cent. solution of eserine, prescribed a mild cathartic, protective bandage and absolute rest in bed. On the morrow I saw the patient; the pain had entirely subsided, tension had decreased to the normal state, pupil contracted, pericorneal injection well-marked yet. Atropia and warm fomentations, combined with proper hygiene soon brought the eye to its normal condition without any further relapses. The last time I saw the eye the cornea was perfectly clear, pupil normal, retaining the same color, however, that it presented when I first examined the case. No appreciable changes had taken place in the fundus. Vision had improved to about $\frac{20}{20}$. I have lately seen Mr. P.; he informed me that his eye had given him no further trouble.

This case illustrates very well the insidious form of iritis serosa; its long duration and sudden relapses. I have had occasion to treat several similar cases, but in none that I can remember, did I meet with such a lack of iritic symptoms.

ARTICLE V.

A REVIEW OF THE PROGRESS OF MEDICAL EDUCATION IN CHICAGO, WITH SOME SUGGESTIONS FOR ITS ADVANCEMENT.
Read before the Chicago Medical Society, Nov. 8, 1880, by
E. INGALS, M.D.

My purpose in this communication is to compare the present standing of medical education in this city with the past; to determine what progress we have made, and to inquire what duties we, as a profession, owe to the future. The present is a favorable time to institute this comparison; for all that has been done in the cause of medical education here has passed under the observation and is fresh in the memory of those who are still on our streets, busy with the everyday activities of life.

I entered Rush Medical College in November, 1845, and graduated February 18, 1847. No literary attainments were then necessary to obtain admission to the class. The requirements for graduation were: A good moral character; age, twenty-one years; three years study of medicine, including two courses of lectures of sixteen weeks each; a satisfactory examination and written thesis. There were six professors. The class of 1846-47 numbered seventy matriculates, or about twelve to each professor, and sixteen, or 22.8 per cent. of the class, graduated. The dissecting room was kept open after the close of the session for such students as desired its use, and members of the faculty were always ready to give private instruction to those who would remain in the city after the lecture term. At that time there was no hospital in the city, and clinical material was scantily supplied by a dispensary in the college building, and such private patients as the professors could bring before the class. Prof. Brainard, especially, was able to present a good number of interesting cases, and such as could be obtained were fully utilized. In this way he enabled the class to see the first surgical operation which was performed in this city under anæsthesia. It was the amputation of a finger, with a portion of the metacarpal bone. Neither Dr. Brainard nor the students knew what the anæsthetic substance was. It was called letheon, and was administered by a dentist, from a bag, as the nitrous oxide gas is now given. The perfect success of the operation elicited applause from the class, that seemed electric to a degree that I have seldom witnessed in a public assembly. This will give a fair idea of the facilities for obtaining medical knowledge in Chicago in 1847, and also what was necessary to get a medical diploma here at that time—subjects that are not always closely related.

The annual announcements of the colleges of this city for the session of 1880-81 are now at hand, and an abstract of their contents should indicate what progress has been made. The Woman's Medical College requires satisfactory proof of the possession of a good moral character and of a good English education, for admission to the class. Applicants who have "certificates of graduation from a high school, or like institution, or a

teacher's certificate from a county superintendent of schools," are received, but when these cannot be furnished, a satisfactory examination by a committee of the faculty is required. The school has thirteen professors; the class for the session of 1879-80 numbered sixty-four non-graduates, or about five to each professor; and ten—15.6 per cent.—graduated. The course of instruction is graded. Requirements for graduation are: Age, 21 years; three years study of medicine, including two courses of lectures of twenty-one weeks each, less ten days vacation during each session, and a satisfactory examination. This indicates an advance for this school of the requirement of good moral character and literary attainments for admission to the class; a lengthening of the lecture term three and a half weeks each session; an addition of seven professors—the number of pupils taught being about the same. Seven and two tenths per cent. less of the class graduated, which indicates greater care in the final examinations.

The Chicago Medical College has a graded course of instruction. Applicants, to be admitted to the class, must have graduated from some literary college, or present certificates from some scientific school or academy, or, in lieu of this, pass a satisfactory examination before a committee of the faculty. Requirements for graduation: Age, twenty-one years; good moral character; three years of medical study, including two courses of lectures of twenty-six weeks each; a satisfactory examination and written thesis. The school has fifteen professors, and the class for the session of 1879-80 numbered 148 non-graduates, or about ten to each professor; and thirty-six, or 24.3 per cent. of the class, graduated. The advance here shown is the requirement of a good English education for admission to the class, a lengthening of the lecture term ten weeks each session, an addition of nine professors—the class being about two and one ninth times larger. One and five tenths per cent. more of the class graduated, which points to less care in the final examinations.

The Rush Medical College admits all to the class who apply, without questioning their literary attainments. Requirements for graduation: Age, twenty-one years, and satisfactory evidence that the candidate possesses a good moral character, and "such

primary education as is clearly requisite for a proper standing with the public and the profession ; " three years of medical study, including two courses of lectures of twenty-one weeks each. The school has twelve professors, and the class for the session of 1879-80 numbered 440 non-graduates, or more than thirty-six to each professor, and 147 graduated, or 33.4 per cent. of the class. The advance shown by this school is an addition of six professors—the class being about six and one third times larger than it was thirty-three years before—a lengthening of the lecture term five weeks each session. The rule for graduation that requires "such a primary education as is clearly requisite for a proper standing with the public and the profession," looks towards an advance, but it is indefinite, and seems to stand in the wrong place. To withhold the degree from a student who has demonstrated the possession of sufficient medical knowledge to be worthy of it, because he lacks literary attainments, after he has been permitted to employ his time and incur the necessary expense of two courses of lectures, is so manifestly unjust that I feel sure the rule would never be enforced. The student should be informed of his literary deficiency when he seeks to enter the medical college, instead of when he is about to leave it. Ten and six tenths per cent. more of the class graduated, which indicates less care in the final examinations. Indeed, it is more difficult to discriminate in this particular when the applicants for graduation are many than when they are few.

All these schools have extended the curriculum of teaching ; they have a greater abundance of clinical material ; they have added a spring session of lectures, and though the instruction is mainly given by those who are not professors, this is a practical prolongation of the college year for such students as will avail themselves of its advantages ; but to do this is not essential to graduation ; and my mind has been directed in this review to the easiest means of getting a diploma in Chicago, as well as to the broadest opportunities that exist here for obtaining medical knowledge.

There are two classes of medical students : one attend lectures to get knowledge, and for these the diploma is relatively unim-

portant; the other think chiefly of the diploma, and will obtain it in the easiest way possible.

Many things in medicine are taught now that were not taught when I was a student, for many things are known now that were not known then, and the opportunities for obtaining medical knowledge are better than they were; and such students as will remain here and devote four or five years to mastering the text-books, hearing such lectures as profit them, taking private courses on special subjects, attending the clinics, learning anatomy in the dissecting-room and pathology in the dead-house, may qualify themselves to be competent and accomplished physicians. But the three years term of medical study which has always been required here as preliminary to an examination for the degree of Doctor of Medicine, has not been increased, and except in requiring that a larger portion of the three years should be spent in college—viz., three and a half weeks each session by one college, five by another, and ten by a third, and the requirement of a preliminary education to enter the class by two of the colleges—it is in no way more difficult to get a medical diploma in Chicago now than it was a third of a century since. In one respect it is even easier; for these colleges all belong to the Association of American Medical Colleges, and the articles of confederation of this Association provide that the degree may be conferred after but two years and nine months study of medicine. Neither do I understand how more knowledge is to be obtained now than then, except as this is influenced by the time deducted from office instruction to be added to the lecture term, though the field of study is enlarged and the subjects taught are more numerous. We could no more than master the subjects then taught, and had our field of study been enlarged, our work must have been performed in a more superficial manner. If the term of instruction is made short, the best results are reached by applying the time to fundamental branches.

While we make access to the profession as easy now as it was in 1847, in other respects the conditions of society are entirely changed. Then a laborious day of travel across the prairie would only accomplish about forty miles, and the best shelter for the night was a log cabin; now we are transported six or seven

hundred miles in the same time, and take a very comfortable hotel along with us. Chicago then had less than 17,000 people; settlements were small and scattered. Everybody was poor; there was a great deal of sickness, and a scarcity of medical practitioners. These abnormal conditions had to be met by temporary expedients. The grade of medical education was placed low, but I think as high as was then wise or practicable. Now our surroundings are changed. We have a large and comparatively dense population, abundant wealth, a superfluity of medical practitioners, while improved machinery and accumulated capital give us leisure so that we can afford to those who are studying the art of healing the sick, time and money enough to enable them to perfect themselves in it to a reasonable degree before they enter upon its practice. Indeed, society cannot afford to do less than this, for the difference between the attendance on the sick of an incompetent and a competent physician, is the difference between death and life, pain and its absence, poverty and plenty. Few misfortunes impoverish more than sickness; for it both increases the consumption of wealth and checks its production; and this consideration might justify the government in prescribing the qualifications that medical practitioners should possess, and warrant it in extending aid to medical as it does to primary education.

No student should be received into a medical college who does not possess sufficient education to admit him to a literary college of respectable rank; and it would be better that he should be a graduate of such a college; for when he enters a literary college he is but commencing his literary cultivation, but when he enters the medical college, he is supposed to have completed all special literary pursuits. The mental discipline which such training gives would enable the student more perfectly to assimilate the medical instruction presented to him; his reasoning faculties would be strengthened, his powers of observation made more acute; he would become a better physician, have more influence in society, and help to exalt the rank of the profession in public esteem. It is more than a century since Blackstone wrote: "A long course of reading and study must form the physician. The gentlemen of the faculty of physic, beyond others, remarkably

deserve a character of general and extensive knowledge." Can any modern Blackstone justly pay us this compliment to-day? The course of instruction should be graded. This separates the advanced student from those who are commencing the study, and students who have acquired a good deal of medical knowledge certainly require different instruction from those who have but little; it relieves the mind from the distraction incident to the pursuit of too many studies at the same time, and enables the student to get some knowledge of the fundamental branches before entering upon those that are based upon them. At least four years study, including attendance on three regular sessions of lectures of not less than eight months each, should be required before a student is admitted to an examination for graduation.

No person who has studied medicine but three years can be properly qualified to enter the chamber of the sick, to assume the responsibility of dealing with the intricate problems of disease. At the best, the physician has a large part of his professional knowledge to acquire after he has graduated, and a deficient literary and medical education leaves him unfitted to profit by his bedside observations after he has entered upon practice, and his patients have added to the perils of sickness the danger of being prescribed for by a nominal physician, who in their sick chambers is studying his profession in a blind way, without an instructor. Four years study, including three sessions of lectures of eight months each, gives one-half the period of study to college instruction, and the greater the part of the period of pupilage that is passed in the college the better.

The common experience of a student in a physician's office is that he has the use of a medical library, with some general directions of the order of his reading; but he receives little personal instruction. A physician in active practice will seldom find time or inclination for more than this. A medical college should have a large number of professors, in order to divide the curriculum of teaching into small sections, which will enable each professor more thoroughly to qualify himself to teach the subjects assigned him. There are many things in medicine that cannot be properly taught to large classes. The signs of disease revealed by a physical exploration of the body, the manipulations required in

the practice of ophthalmology, otology, laryngology, gynecology, many surgical operations, the use of instruments, the application of dressings, and the like, may be *described* to a large class, but they cannot be *taught* to a large class. This is as impossible as it would be to teach the art of making horse-shoes by didactic lectures on the craft of the blacksmith. Yet no one is fitted to enter upon general practice who has not received careful instruction on most of these subjects. Another benefit of a subdivision of the class is that this brings each of its members into nearer personal relations to his teacher, which is often a great advantage aside from the medical instruction received, for the professor should be a model on which the student may mold his character, and principles thus imparted may favorably influence his entire subsequent life.

The examinations for the degree should be rigid, and if there is doubt of the competency of the applicant, he should be rejected. This is the more necessary as the principal evidence usually required as proof that the student has attended two courses of lectures, is that he holds the tickets for two courses of lectures. He may absent himself from the lectures, or he may take out the tickets near the close of the session, and yet be admitted to the examinations for graduation the same as if he had heard all the lectures. Sometimes, too, faculties are imposed upon by false certificates of study; but care in the examinations would detect these frauds. The percentage of those examined for the degree who are rejected is so small, that it serves as a practical invitation to all who have complied with certain easy formalities, to apply for it. The medical diploma should be conclusive evidence that its possessor is a learned person, but, as conferred by many schools, it cannot be accepted as sufficient proof.

At a largely attended session of the annual meeting of the Illinois State Medical Society, for the year 1879, the following resolutions were offered:

"*Resolved, 1st*, that the Illinois State Medical Society requests of all regular medical colleges that they institute preliminary examinations for students who apply for admission to their

classes, and only admit such as have, at least, a thorough English education.

"*Resolved*, 2d, that the annual sessions of lectures by the regular faculties should not be of shorter duration than six months.

"*Resolved*, 3d, that all students should be required to study medicine five years, and attend three full annual sessions of lectures, before they are admitted to examination for the degree of Doctor of Medicine."

The first two resolutions were adopted unanimously, and the last with but few negative votes.

At the annual meeting of the alumni of the Rush Medical College for 1879, the following was ordered to be printed in the transactions, but action on it was postponed until the next annual meeting, the purpose of the postponement being that the subject might be well considered before action on it was taken:

"The Alumni of Rush Medical College desire to express, in a formal and public manner, the affectionate regard we entertain for our Alma Mater, our pride in her past history, and confident hopes for her increased usefulness in the future. We hold that her supreme duty to the public, which has always accorded her a generous support, demands that her first aim and object should be to aid in exalting the attainments of the medical profession, and by so doing to increase its usefulness, power and respectability. As a mode of accomplishing these results, we would respectfully offer to the board of trustees of the college the following suggestions:

First. To increase the regular term of college instruction to a period of not less than nine months. *Second.* To require attendance on three full terms of medical lectures as a prerequisite for admission to examination for the degree of Doctor of Medicine. *Third.* To institute preliminary examinations for students who apply for matriculation to the school, and admit only such as have, at least, a thorough English education."

I judge that 200 of the alumni were present at the annual meeting of 1880, when these resolutions were adopted without a dissenting voice. The action of these organizations, as above expressed, is doubtless in harmony with the individual opinions

of most of the members of the profession. The medical education of physicians in Illinois is mainly left to the profession, and a faithful performance of the work is a duty we owe to society. This duty does not rest alone on our medical schools, but is shared with them by the entire profession, and it is this which causes me to bring the subject before this society for its consideration. The review I have made does not show that the institutions of medical learning in this city have assumed the advanced position the profession seems to demand. Though something has been accomplished, it is less than we had hoped, and to my mind the promise of the immediate future is not encouraging.

The last announcement of Rush Medical College contains this notice: "On and after March 1, 1883, all applicants for admission to the college will be examined as follows: In the elements of physical science as taught in the common school text-books; in arithmetic to cube root." Is it possible that this rule is looked upon as an advanced requirement? and if so, why is its operation postponed three years? Is so much time necessary to enable medical students to prepare for the ordeal of an examination that is limited by the text-books of our common schools? and do we expect our profession to be accorded a place among those recognized as learned, while we confer its honors and impose its duties on persons whose literary attainments are so low that they are unable to "cipher to cube root"? Is this a sufficient preparation for those whose daily avocations require a knowledge of such subtle and intricate subjects as chemistry, histology, physiology, pathology, whose prescriptions are to be written in a classical language, and who are to uphold the character of our profession in their associations with cultivated people?

I wish it was as easy to make the grade of the profession higher as it is to demonstrate that it is now too low. I have no definite plan of how this purpose may be effected, but will offer some suggestions that I hope you may supplement by others. As individual members of the profession, and associated in our medical societies, we should continue the agitation of the subject. We should bring every influence we can to bear on those who have the immediate conduct and control of our medical schools.

We should educate the profession and the public up to a higher standard. Some schools have already been influenced in their action on this subject by an enlightened wisdom, and they merit our highest commendation.

But whatever we may accomplish with the regular schools, we can have little hope that our influence will affect those that we do not recognize, and these commission practitioners whose incompetency people learn through suffering and death. Such schools make fiat doctors as it is proposed to make fiat money, by the printing press, and each are of about equal value for the purposes for which doctors and money were instituted. The action of the schools in this matter is perhaps restrained by the fear that an increase of requirements would lessen the number of students, and consequently the amount received from fees, and give to the schools an appearance of diminished prosperity.

But the schools should learn that their standing will be fixed, not by the number, but by the acquirements of their graduates. If the requirements were much raised, the number annually graduated would certainly be less ; but if by this means the number could be reduced one-half, it would be a great gain, not only to the profession, but to society, and also to those who should be thus turned away from an employment for which they are not fitted by their attainments. But neither the aggregate of the fees nor the numbers in the classes would be so much reduced, for the students would remain longer under instruction. But even if the professors' fees should be reduced, we must keep in mind that medical schools ought to be conducted in the interests of students and of the general public, rather than in the exclusive interests of the limited number of persons who give instruction in them. The latter course would be like establishing common schools for the pecuniary and other advantages they might afford to the teachers, instead of for the purpose of educating children and benefiting society. The object in view could perhaps be promoted by legislation. For example, laws might be enacted that after some time in the not distant future, no person who had not then been admitted to practice in this State, should be allowed to commence the practice here unless he was a graduate of a medical college that required four years of medical study, three annual

sessions of medical lectures of not less than eight months each, laboratory work, practical anatomy, and hospital instruction, as a prerequisite for graduation, and the possession of a good English education for admission to the class. It would be well, too, if legal provision could be made for a State examining board, whose duty it should be to examine all applicants for medical graduation in the State, so that an equal thoroughness of teaching should be exacted of all our schools. These examinations might include *materia medica*, but exclude therapeutics, which would avoid all questions growing out of special systems of practice. The colleges should confer the degree on the recommendation of this board.

If the suggestions I have made are not attainable, then a good influence on the cause of medical education might be exerted by establishing a new medical college in Chicago, on a basis similar to what is recommended above. Should this be thought best, such an enterprise is practicable. Other advantages than those growing out of increased requirements for graduation might result from establishing another school in this city, for the classes that annually assemble here, even now, are too large to be as well taught as they could be if they were smaller; and as our population increases—other things remaining the same—the number of students will also increase. Chicago is as well suited to become a great medical center as it is to become a great manufacturing and commercial center. By its railroad ramifications it will be easily accessible to a large and wealthy population; its climate is favorable for health and study; it will afford abundant material for clinics and dissection; the necessary cost of living here will be small; the city will contain numerous objects of interest to invite students to it; and these factors will cause it to be the residence of many skillful practitioners and able teachers. We should lay the foundations here as we would that those who come after us should build.

Clinical Reports.

NOTES FROM PRIVATE PRACTICE.

ARTICLE VI.

Case of Cancer of the Breast.—Recovery After Removal.

In May, 1862, I amputated a cancerous breast for Mrs. Wm. Morehead, of Bellville, Dane county, Wisconsin. She was a very large and robust woman, aged forty-seven, the mother of one child, and appeared to be free from cancerous cachexia. Her breast was very large, and I cut widely of the disease, so as to extirpate any tissues that might possibly be implicated. Bleeding vessels were secured and the edges of the incision brought together by sutures, the whole being supported by a compress and bandage. The wound healed by the first intention, and the rapid recovery seemed complete.

In about two years after the operation, a scirrhus tumor about the size of a butternut appeared on the lower edge of the cicatrix and directly below the point where the center of the breast had been removed. I cut it out, brought the edges of the incision together by sutures, and applied a light compress and bandage. In a few days erysipelas appeared and spread rapidly, but was soon controlled, after which the wound healed quickly. From that time there was no recurrence of the cancerous disease, and Mrs. M. enjoyed good health. Her death, which occurred in May, 1880, was caused by umbilical hernia, eighteen years after the first and nearly sixteen years after the second operation.

The breast is preserved in alcohol. Some of the celluloadipose tissue, has become detached, and the breast appears to be much smaller than when first removed.

WM. H. FOX.

Oregon, Dane Co., Wis.

Domestic Correspondence.

ARTICLE VII.

BOSTON LETTER.

Messrs. Editors :

We are in the midst of a noble rain storm. The water falls with an abundance so copious as to be a cause for gladness and gratitude. I think I am not mistaken in saying that we have not enjoyed such a rain for several months. Throughout New England, water has been almost a luxury since July last. In Boston those who are at all particular as to the quality of their drinking water, buy for the table, Belmont, Apollinaris, Poland or some other spring water. The Cochituate has a vile flavor, and, while apparently clear and bright, leaves, upon a properly constructed filter, matters too numerous to mention, and upon the palate a taste which reminds one of old paint pots; sometimes of the hold of a fishing smack. What share, if any, such water may have in current illness, I am unable to say. We know that the disagreeable quality of the water is due to the fact that the lakes which supply us are very low in quantity, and, doubtless, as we approach the bottom of a lake, the less pure do we find the water. Nevertheless, I cannot learn that any class of diseases which might be increased by impure water is notably prominent. But we need rain in abundance. If it should not come before farmers plant in the spring, our crops will suffer and, it may be, when the tonic of winter weather is gone, that we shall begin to see the effects of unwholesome water upon the people. Moreover, we have had the unique experience of enjoying a moderate temperature while cities far to the south of us, Charleston, Savannah, etc., have suffered an unknown frigidity. Something

ails New England weather. For the past six months it has been positively unnatural. Vennor, the new prophet, is made responsible for it all.

The abuse and over-use of dispensaries, form just now a subject which is being warmly discussed by our medical societies. Opinions present a most curious unlikeness. Some physicians favor a great stringency and the appointment of salaried inspectors whose duty shall be that of discovering how able or unable patients may be to pay for advice. Others, notably the specialists, think if anything be done to decrease the number of patients at dispensaries, whose clinical material is used for purposes of instruction, medical education will suffer. These are the two extremes. No definite step has been taken to modify a trouble which, with us at least, has assumed a very serious and abnormal shape.

A new annoyance has appeared in the form of an abortion called the College of Physicians and Surgeons of Boston. The chief demon is a vendor of masonic paraphernalia, who has voted himself a doctor, and who apparently intends to try the Buchanan curriculum. It is a legitimate outgrowth of the failure of the mismanaged medical bill of last winter, which, while as necessary as pure water, was sprung upon us in a form too imperfect for success. At the outset the impulse of every right-minded physician was to indorse it, but upon sober second thought and candid consideration, it was found that the provisions of the bill were full of errors, and it was dropped. Thereupon the quack taketh with him seven other spirits more wicked than himself, * * and the last state of that man is worse than the first. We did not even scotch the snake. Consequently, bogus medicine develops a cheap school. Boldness becomes effrontery. It would be a strange condition of things if diplomas were to be obtained in Boston for mere money. But as regards quackery, we are in that helpless state of which the less said the better.

The feeling of annoyance which naturally arises when this subject is mentioned, suggests another matter, of which, on the contrary, too much cannot be said: You will recall the series of Health Primers published by Lindsay & Blakiston, of Philadelphia. The stereotype plates of six of these were sold some

months ago by Mr. Blakiston (who now holds exclusive possession of these books) to Ward & Lock, a firm of English publishers. In concluding the sale Mr. Blakiston especially stipulated that the names of the editor of the series, Dr. W. W. Keen, and also of the authors, should all appear in the English reprints. The result was that this high minded firm of Ward & Lock issued the books *anonymously* under the title of "Ward & Lock's Long Life Series, accurately written and carefully edited by distinguished members of the medical profession;" leaving it to be inferred that the authors were British. In reply to Mr. Blakiston's remonstrance, these noble scions of Britannia replied that they had a perfect right to the course they had taken, and moreover, that "*so many changes* were requisite to adapt the books to the English market, that it *would have been unjust to use the authors' names!*" These so-called changes were merely necessary to cover American allusions and were not only unworthy of mention, but had no bearing whatever upon the intrinsic character of the primers. This is not the first offense of this redoubtable firm. It is said that John Habberton, learning that "Helen's Babies" had a large English sale without copyright, went into Canada and there wrote the last chapter of his next book, thus securing both English and American copyright. Whereupon, Messrs. Ward & Lock had a new chapter written in the place of Habberton's last chapter, and then published the book in England in spite of the copyright. Comment upon such trickiness merely vexes one without producing the slightest alteration in the moral quality of sharpers like these Englishmen.

Dr. John Homans, on Monday evening last, read before the Boston Society for Medical Improvement, the history of twenty-five cases of ovariectomy upon which he has operated within twelve months, with the remarkable result of twenty-three recoveries and only two deaths, these undoubtedly being hastened by the extremely sultry weather of last summer, at which time they occurred. One of the cases of recovery was rendered unique by the fact that subsequent to the operation the chest was found to contain fluid. By aspiration forty ounces of fluid were removed. This in no way retarded the convalescence.

In a second case both ovaries were removed with the tumor.

In spite of this menstruation reappeared within a short time after recovery and has regularly continued. As Dr. Homans remarked, this phenomenon has a bearing on the Battey operation. These cases were all treated antiseptically, and Dr. Homans, who seems to possess the peculiar qualifications which apparently are a *sine quâ non* in successful ovariectomy, has more than reason to be proud of his remarkable and brilliant results. The immense strides which this operation has taken within a very few years, and the almost absolute certainty of its success in the hands of skilled and experienced men, is very significant. I was told last night that not longer than ten years ago, Dr. Homans himself positively refused to do ovariectomy because of his lack of faith in its safety. To-day, his success has given him a well-won fame. He is a courageous operator, very particular as to details, especially thorough in sponging and cleansing the abdominal cavity, and unusually careful in the after-treatment. He attributes his good fortune in operation to Listerism. I may add that he never uses catgut ligatures, but confines himself strictly to carbolized silk which he applies to the pedicle behind the clamp, which he uses only temporarily, removing it after the ligature is firmly in place.

You will have noticed that Dr. George B. Shattuck has been appointed editor of the *Boston Medical and Surgical Journal*, vice Dr. J. C. Warren, who resigned after giving the *Journal* a fresh life, unusual vigor and a handsome form and dress. Those who know Dr. Shattuck do not doubt that the development of the *Journal* will steadily continue under his influence. Dr. James C. White, to whose unusually able leadership much of the recent success of the Boston Society for Medical Improvement is due, has declined re-nomination as president, much to the hearty regret of the Society.

BOSTON, January 12, 1881.

ARTICLE VIII.

NEW YORK, Jan. 3, 1881.

EDITORS JOURNAL AND EXAMINER :

Having said farewell for a few weeks to my pleasant Indiana home, and come East for the purpose of visiting the medical schools and hospitals of New York, Philadelphia, and Boston, I thought a letter of gossip from this city (and perhaps at another time from the other two as well), might not be without interest to your readers, many of whom can, no doubt, recall from the long ago pleasant memories of the winter months passed in one of these places, at the commencement of their medical career.

The three colleges here seem to be in an equally prosperous condition, each of them having over five hundred matriculants. At the College of Physicians and Surgeons, instead of a spring session, and a succeeding winter session of five months in length, which hitherto have made up the collegiate year, this now consists of a single session of somewhat over seven months in length. Bellevue has adopted the three years course, with final examinations in elementary branches at the end of the first and of the second session. The collegiate year at the University is divided into three sessions, the spring, preliminary winter, and regular winter session, the whole embracing a period of eight and a half months attendance at the regular winter session being obligatory.

Father Time has dealt kindly with most of the older members of the different faculties. Alonzo Clark (now president), as much a favorite with the students as ever, finds it less tiresome to deliver his lectures, seated, although his voice shows no signs of weakening. Alfred Post still conducts the clinic at the University, and operates with as steady a hand as of yore; while James R. Wood, having lost none of his daring and dexterity, fills the large amphitheater at Bellevue Hospital with students from all the colleges, who come together Saturday afternoons to attend his surgical clinics; and Lewis A. Sayre, whom many think gruff and unsympathetic, yet whose friends know the warm heart beating beneath the rough exterior, has for his audience,

many practitioners from this and neighboring cities. At one of his clinics, having shown a case of hip-joint disease, he said: "Such cases as these are often attributed to scrofula, and I am tired of hearing everything laid at its door. Let me cite a case bearing on this point. I was called to see a lady, recently confined, who was suffering from some trouble with both hip-joints. It had been necessary to use the forceps in delivering the child, and the assistants holding the leg on either side, had caused such extreme abduction as to produce the affection of the hip-joints for which I was called in consultation. While explaining the *modus operandi* to the physician, the nurse, who was dressing the child, having become interested in my remarks, had taken the child by the legs and was making extreme abduction. I caught the little one's legs together, and said to the doctor, 'if this child shows no bad effects from that proceeding, I shall be surprised.' Not long afterwards, the child was brought to me with *morbis coxarius*—of scrofulous origin, of course. The mother had it, and now the child has it."

The elder Flint, though looking older than when I saw him last, is evidently in the best of health. H. B. Sands, now occupies the chair of Practical Surgery at the college of Physicians and Surgeons, and ranks among the most skillful surgeons in the city.

I have had the pleasure of witnessing several ovariectomies done by T. Gaillard Thomas, at the Woman's Hospital. In one of these the time occupied from the first incision, to the twisting of the last suture, was exactly fifteen minutes. The tumor was a large multilocular cyst, with a long pedicle, and no strong adhesions. The incision in the abdominal walls was made low down in the median line, and was not over three inches in length. Dr. Thomas said, "Every inch that the incision is extended toward the diaphragm, adds immensely to the dangers of the operation." The operation was done antiseptically, Dr. Thomas being a true disciple of Lister. James L. Little, formerly connected with the college of Physicians and Surgeons, is now Clinical Professor of Surgery at the University. At his last clinic he cut for stone, in a little boy about four years old, doing the median operation. Dr. Little stated that he had performed lith-

otomy thirty-six times, on patients old and young, and had removed some very large stones, but of these thirty-six cases only two had died, and their death was not directly attributable to the operation. He used the median operation, and thinks his results were as good, if not better, than would have been obtained from any other method.

At St. Luke's Hospital I saw a very interesting operation by Thomas T. Sabine, a detailed report of which will probably appear in the *American Journal of Medical Sciences*. A man, falling from a scaffold thirty feet high, alighted on his feet, and fractured the astragalus in the right tarsus. The fracture was not discovered at the time, but the man was treated for simple sprain of the ankle-joint. When he entered the hospital some months later, the foot was in a state of talipes varus, but the motions of the joint were quite good. After consulting with Drs. Sands, Mason, Wier, Post, Stimson, and others, Dr. Sabine decided to divide the tibia and fibula subcutaneously, at the junction of the lower and middle thirds, which he did very dexterously, losing but little blood. He then abducted the lower fragment to a sufficient angle, to bring the sole of the foot on a line at right angle with the axis of the leg, where he secured it by means of the plaster-of-Paris splint, strengthened by a strip of iron on either side. The interval between the ends of the tibia, at the point of division, was about three-fourths of an inch. Dr. Bull did a similar operation at the same hospital, a few weeks since, and the result was all that could be hoped for.

I was at the Woman's Hospital on one of Dr. Emmett's operating days, and, among other operations, saw him close a vesico-vaginal fistula. Completing the operation, he said: "Gentlemen, the reason why so many of these comparatively simple operations fail, is on account of the wires being twisted too tightly, and so quickly cutting their way out. Be careful, before commencing to twist, to shoulder or bend each wire at a point directly over the line of apposition; then, by bending both wires together, at nearly a right angle to this line, you can twist without danger of constricting the tender tissues." Dr. Edmunds also operated on a girl fourteen years old, for the formation of an urethra. Some surgeon, unknown to fame, in trying to remove a

large calculus from this girl's bladder by dilating the urethra, had torn a rent from a point in the base of the bladder to the external meatus. So much time had elapsed, that not a sign of the position occupied by the urethra remained. The doctor said he would not attempt to close the whole rent at one sitting, but would first make the urethra, and later, close the opening in the base of the bladder. Dr. Emmett has had good results in this class of cases. He makes up for the lack of sphincter muscles, by extending the new urethra up in front of the symphysis, bringing the external meatus fully an inch farther forward than normal. This makes a urethra having a shape similar to the spout of a tea-pot.

Lister's method is the fashion here, but there is one professor who does not hesitate to express his views on the subject, notwithstanding they are not in accord with those of the majority of his colleagues. Alexander B. Mott, said to his class at Bellevue recently, "For twenty years I have been holding surgical clinics in this college, and feel confident that the results attending my operations, will compare favorably with those obtained by what is termed 'antiseptic surgery.' The great majority of you will settle in small places, where you would not find the necessary paraphernalia, and could not afford it if you did; and you will find by doing your work neatly, and using plenty of clean water, that ninety-nine out of every hundred of your surgical cases will do as well as you could expect from any treatment."

In closing, let me say a word or two regarding a lecture I attended a few evenings since. Mr. Henry Bergh addressed the citizens of this city on the subject of "Vivisection." That Mr. Bergh has done a good work in the prevention of cruelty to animals, no one will gainsay, but when he comes before an enlightened audience with such twaddle as he presented on this occasion, one not only perceives the gross ignorance of the man, but is led to doubt his soundness of mind. Hear him: "Of what use is vivisection? A friend of mine had a beautiful little daughter lying dangerously sick with diphtheria. The attending physician called in consultation a well-known physiologist of this city, who advised making an opening into the windpipe. The dear little girl screamed aloud at the horrible suggestion, and said: 'Father,

they will kill me!' The operation was done; the child died, and her infantile prophecy was fulfilled. Had vivisection taught this man anything?" The argument is unanswerable. Comment is useless.

Recall to mind those eminent physiologists, whose arduous labors and patient researches have added so much to the sum of earthly happiness; whose whole lives were spent in the interest of their fellow men, and who went to their rest at last, recompensed by the thought of the good they had accomplished. And now listen to the tribute of respect paid them and their followers, by this champion of the brute creation. "If there is a hell, and hell-fires are burning, I am sure these men will feel their torments to the utmost extent." The long continued hissing that greeted this expression, must have startled somewhat this noble-hearted man, though we would not expect one capable of conceiving such a fiendish thought to be much disturbed. These extracts will suffice to illustrate the method by which Mr. Bergh hopes to convince the legislature of this State of the uselessness and wickedness of vivisection.

GEO. B. PRATT, M.D.

ARTICLE IX.

GREENWOOD, WIS., Dec. 28, 1880.

EDITORS JOURNAL AND EXAMINER,

Dear Sirs:—I have noticed, lately, two articles in your journal on asthma, and as I have had some experience with that stubborn complaint, I wish to offer a suggestion in its treatment, which has been of service to me in a good many cases, and has indeed never failed being of some benefit to my patients.

It is the use of jaborandi. I saw some time since an article in which it was recommended for asthma. At that time I was using it (as I also was giving all the "new remedies" a trial) in my general practice. I happened to prescribe it in one case (for other symptoms), where the patient had suffered for years with asthma. She told me as she was becoming convalescent, that she believed I was curing her of her asthma. Knowing how freely

it excites mucous secretions, also having noticed its relaxing effect on involuntary muscular fiber (for I have used it in colic and even for tenesmus of dysentery), I concluded it must be the jaborandi she had taken, that had produced the good effect in her case. I continued its use, making almost a complete cure. Since then I have treated about twenty patients with *this alone*, that number being all the asthmatic patients within about fifty miles of me; and not one has it failed to help. I give 4-drop doses, fluid extract, middle of forenoon, middle of afternoon, at about 7 o'clock p. m., and 8 or 10 drops at bedtime. Should these doses produce a very free flow of saliva, then I give a little less, but *follow it up faithfully* four times a day, even repeating the evening dose in the night, should a paroxysm come on.

Give this a trial, fellow practitioners, and let us hear, through the JOURNAL, your success with it. (Of course, in anæmic cases I gave constitutional treatment, chalybeates, etc., in addition.) I will respond promptly to any personal letter from regular physicians on this subject, for I am more than positive of the good results it has given me.

H. J. THOMAS, M.D.

ARTICLE X.

BLOOMINGTON, ILL., Jan. 12, 1881.

The members of the Illinois State Medical Society are hereby requested to report to me or to Dr. G. W. Alvin, or to Dr. E. Ingals, the name of any member of our society who has died during the last year, together with such biography as they may be able to furnish.

L. F. WORRELL,

Chairman of the Committee on Necrology.

Society Reports.

ARTICLE XI.

MICHIGAN STATE BOARD OF HEALTH. Reported for the CHICAGO MEDICAL JOURNAL AND EXAMINER.

At the regular quarterly meeting of this board held on Tuesday, January 11, 1881, at its office in Lansing, the following members were present: R. C. Kedzie, M.D., president, of Lansing; Hon. Le Roy Parker, of Flint; Rev. D. C. Jacokes, D. D., of Pontiac; John H. Kellogg, M.D., of Battle Creek, and Henry B. Baker, M.D., secretary.

VENTILATION.

Rev. Dr. Jacokes, committee on ventilation, reported some experiments which showed that through registers of equal size, one at the top and the other at the bottom of the room, the velocity of the upper current of air outward was greater than at the lower register. When the ventilation was from the bottom only, the temperature of the room was higher than when the ventilation was from both top and bottom registers. These experiments, he claims, demonstrate that ventilation should be from the bottom in this climate in winter.

Dr. Kedzie reported the following experiment, which seems to show the same fact: He took a glass tube thirty inches long having a thermometer in the lower end. When the tube was closed and the upper end heated to 750° F., the thermometer rose but one degree in an hour; the lower end of the tube being opened and air being drawn from it through the tube, the same heat being applied at the upper end, raised the thermometer below, over 100° in one minute.

Dr. Kedzie stated that in conversation with the newly elected governor, he had seemed to appreciate the work done by this board, and, in his message to the legislature had recommended an additional appropriation of \$2,000 for the use of the board.

LAWS DESIGNED TO PREVENT ACCIDENTS.

Mr. Parker, committee on legislation in the interests of public health, reported progress in the careful study of the laws relating to punishment for carelessness causing accidents, such as the falling of the "grand stand" at Adrian, and said in his opinion the laws are stringent enough now, but the sentiment of the people does not hold a man guilty of murder through an act of negligence. There was no law, however, requiring expert inspection of public buildings constructed or in course of construction. Mr. Parker also reported on a proposed system of

INSPECTION OF STEAMBOATS

and other sailing vessels on our many inland lakes and streams, at summer resorts, etc. He had prepared a bill providing for such State inspection, and he was requested to take measures to have the bill presented to the legislature.

THE WORK OF THE OFFICE.

The secretary's quarterly report of work, mentioned the preparation of diagrams and other labor in preparing and printing the report of the board for 1880, and similar work on two volumes of vital statistics; the distribution of documents published by the board, and of blanks for return reports; and preparations for the sanitary convention to be held, under the auspices of the board; 553 communications have been written during the quarter.

ADULTERATION OF SUGARS.

The secretary reported that he had collected samples of sugars and syrups from the leading dealers in the city, and had received from Prof. S. P. Charles, of Boston, the result of his analyses, which showed that the sugars were mostly not adulterated, and but two out of ten of the syrups. It is due to the dealers to

state that those found to be adulterated were so sold by them, namely, as "corn sugar" syrups, "glucose" syrups, etc.

DIPHThERIA.

Dr. Kedzie mentioned a horrible superstition prevalent in Russia, under which a wafer is put into the mouth of a child suffering with the disease, and then into the mouth of a well child, with the idea that it is a protection against the disease. As it is a communicable disease, it would be difficult to devise a more certain mode of spreading it.

POISONOUS JELLY.

A sample of apple jelly was sent to the secretary with the statement that eating of the jelly had caused the sickness of a large family. Dr. Kedzie had analyzed it and found three grains of sulphate of zinc to each ounce of the jelly. It was probably in the form of malate of zinc, formed by the action of the acid of the fruit on the galvanized iron vessel in which it was boiled. If this was the fact, it illustrated the danger of using such vessels for such purposes.

YELLOWs IN PEACHES.

Dr. Kedzie reported an examination of peaches affected with the yellow. They were of fine appearance, rather red, especially about the pit. The meat was watery and decomposed rapidly. Chemical analysis showed excess of water and deficiency of sugar and jelly-forming material. He read letters from some who thought eating the peaches was not injurious to the health, and from others who stated the facts of sickness in repeated instances, after the eating of such peaches.

"HOG CHOLERA."

Dr. Baker made a report as special committee to study the relations between the prevalence of "hog cholera" and the public health. His report included a statement of his trip to the southwestern part of the State where the disease prevailed, and numerous letters from farmers, physicians, veterinarians; among the latter Prof. Law, Prof. Klebe and Drs. Detness and Salnon.

A letter from Dr. Jerome, of Saginaw, stated that he saw hogs suffering with the disease, who were unable to go up the inclined plane at the slaughter-houses in Chicago, killed and made into lard, and stamped with a fancy brand. In this same connection, Dr. Baker spoke of

LARD WHICH CAUSED SEVERE SICKNESS

in a family in Lansing. A sample of the lard had been microscopically examined by Dr. Detmers, of Chicago, who sent drawings of the organisms he found in it, stating that they were the same as he had found to be the contagious principle in "hog cholera," sometimes called "swine plague." He also read a letter from Dr. Marshall of Lansing, which said he had examined a sample of the lard in which the "fried-cakes" (which caused the sickness) were cooked, and had found the same organisms to be present. Dr. Baker also read a part of a letter from Prof. Klebs, of Prague, Austria, relating to the same subject. Prof. Klebs has made a special study of such subjects, and claims to have found the organism which is the specific cause of typhoid fever. He does not think hog cholera to be the same as typhoid fever, but would like material with which he could carry on a comparative study.

A vote of thanks was extended to those citizens who had labored so hard to make the

SANITARY CONVENTION AT FLINT

a success. The convention will be held on Jan. 25th and 26th, 1881.

Dr. Baker stated that

CONTAGIOUS DISEASES PREVAIL MOST WHERE

it was noticable that the local authorities paid little or no attention to the laws requiring the appointment of a health officer, and communication with this board.

The board adjourned to meet at Flint, January 25, 1881.

Reviews and Book Notices.

ARTICLE XII.—HEALTH AND HEALTHY HOMES: A GUIDE TO DOMESTIC HYGIENE. By George Wilson, M.A., M.D., Medical Officer of Health for Mid-Warwickshire Sanitary District, and author of "Handbook of Hygiene and Sanitary Science." With notes and additions by J. G. Richardson, M.D., Professor of Hygiene in the University of Pennsylvania; 12mo., pp. 314, cloth, \$1.50. Philadelphia: Presley Blakiston; 1880.

Considering its size, this is a well-digested and complete treatise of hygiene. It is tersely written, contains none but the most accurate views and facts related to diseases, and will prove a great aid to the public in general, and to medical students especially. Several important points are well established in this work: the certainty of the prevention of diseases through sanitary measures; the prolongation of human life, as a necessary result of the same; and the extinction of some dreadful epidemic diseases which used to decimate the human race almost every decade, some centuries ago.

The physiology of the human body; the causes of disease, among which hereditary transmission and causes induced by the individual himself, and sanitary precautions, are all treated in a scientific manner. But the reader will soon perceive that this is the *résumé* of a larger work, and devoid of anecdotes and pleasant digressions, which would make its perusal less fatiguing. The conclusion terminates with this peculiar remark:

"Then, too, it has to be pointed out that so long as medical practitioners are paid solely for their services in attending on cases of illness, it is manifestly not to their interest, from a purely monetary point of view, to assist in the prevention of



disease, because if prevention means anything at all, it certainly implies that the more effectually the causes of disease are removed, and precautionary measures are carried out, the less numerous ought patients to become, and the sick-rate and death-rate will both be lowered. It is true that medical men, with the noble disinterestedness which characterizes the profession, are seldom lax in doing all they can to prevent the spread of disease; but there is no disguising the fact that in many quarters there is appearing on the surface a growing antagonism between medical practitioners and sanitary authorities, which is very much to be regretted. All this might be obviated if the public could be persuaded that it would be to their ultimate advantage to pay the medical attendant a liberal allowance to conserve the health of the household."

The reviewer thinks the remark offensive for honest physicians. The antagonism referred to exists, but depends on personal contentions, places secured through political influences, the election of ignorant or over-anxious officers, and other causes, rather than on the desire to legally murder.

H. D. V.

ARTICLE XIII.—THE PRACTITIONER'S HANDBOOK OF TREATMENT, OR PRINCIPLES OF THERAPEUTICS. By J. Milner Fothergill, Member of the Royal College of Physicians of London; Assistant Physician to the City of London Hospital for Diseases of the Chest, and to the West London Hospital, etc., etc. Second American, from the second London edition, enlarged; pp. 641.

The favorable reception of two large editions of this work in England and America, proves its acceptability to the profession. Its aim is to supply a digest of the general principles of therapeutics, to arrange the well-known facts of practice together with the explanations furnished by pathological research and physiological inquiry, in such form that the treatment of each individual case becomes an intelligent and rational procedure. This difficult task the writer accomplishes in admirable style, though no attempt is made to collect all the information possible or to enumerate all the articles of the pharmacopœia. The work comprises twenty-four chapters in which the diseases peculiar to each phy-

siological system are discussed as to pathology and the appropriate therapeutical treatment suggested.

The contents of the seventh chapter, on Growth and Decay; of the twelfth, on Diatheses and Cachexia; of the fifteenth, on the Respiratory System; the twenty-second, on Public and Private Hygiene, are especially worthy of mention and the concluding twenty-fourth chapter, entitled *The Medical Man at the Bed-side*, in which the author quotes largely from Prof. Austin Flint's "Clinical Medicine," will be of special value to the young practitioner, and its careful perusal will save his incautious steps from many a humiliating stumble.

The book is valuable in that it is suggestive and stimulates the reader's own therapeutical knowledge, and though an occasional view of the author will be found at variance with those of the majority of American practitioners; as for instance, the administration of atropia in doses that seem dangerously large, and the advice not to withhold it when the atropine phenomena appear, which we fancy few patients outside of hospital wards will allow. Still, pathology as morbid physiology is the strong point of the work, and an occasional therapeutical fault does not detract much from its value, as it is not designed to supplant the regular text-books on *materia medica* and therapeutics, but as a valuable adjuvant.

D.

ARTICLE XIV.—A MANUAL OF MINOR SURGERY AND BANDAGING. By Christopher Heath, F.R.C.S., Surgeon to University College Hospital, and Holme Professor of Clinical Surgery in University College, London; Honorary Fellow of King's College. Sixth edition. Revised and enlarged; with 115 illustrations; 12mo., pp. 342, cloth, \$1.50. Philadelphia: Lindsay & Blakiston; 1880.

This book contains all that is necessary for the diagnosis and treatment of surgical diseases coming under the care of house-surgeons, and we may say of the average practitioner. It contains also many hints not found in larger works, comparative tables of symptoms, various manners of treatment, and all the latest discoveries and improvements of real value in mechanical surgery. The fact that it has already reached its sixth edition

renders any praise superfluous, yet let it be said that it is the best book published on the subject, and one whose perusal will repay the student with interest.

Nothing has been forgotten, every suggestion is useful and practical, and the style is orderly, easy and interesting. The author has identified himself with the subject. The illustrations are neat wood-cuts, handsomely executed, which will render the text easy even for beginners.

H. D. V.

ARTICLE XV.—DIAGNOSIS AND TREATMENT OF EAR DISEASES. By Albert H. Buck, M.D., Aural Surgeon to the New York Eye and Ear Infirmary; Instructor in Otology in the College of Physicians and Surgeons of the City of New York, etc.

This work forms an admirable addition to the list of American medical literature. With but a half dozen lines of preface in which the author announces that his aim has been to present the results of his own experience in text-book form, he addresses himself at once to his subject.

Chapter I gives the physiology of the ear in simple, lucid style, illustrated by some satisfactory diagrams of the mechanical arrangement of the ossicles and of the minute anatomy of the middle ear, vestibule, semicircular canals and cochlea. Chapter II is devoted to the examination of patients, tests of the hearing power, details of instruments and methods. He strongly deprecates the use of the syringe, even by beginners, in the art of otological manipulation, recommending the curette instead, supplemented by the probes and cotton holder. The idea, however, of the country practitioner, with perhaps a half dozen otological cases a year, removing impacted ceramius from the meatus with the curette, will hardly be enthusiastically received by the great majority of the profession. Still the syringe is recommended for the patient's use, and the style represented has its point well protected from damages to the membrane by projecting bars. Chapter III, on Diseases of the Auricle. IV, of the External Auditory Canal. V, Methods of Examining the Middle Ear. VI and VII, Diseases of the Middle Ear, purulent and non-purulent. Chapter VIII is devoted to Fractures of the Tem-

poral Bone, with a series of selected cases, fourteen in number, a subject not usually treated in works of this kind, and forms a valuable section. Chapter IX contains seventy-four pages on Diseases of the Mastoid Process, with five good illustrations of the anatomy of the mastoid region.

There are forty-six illustrative cases, detailed, with their clinical history and treatment. Chapter X is devoted to Miscellaneous Conditions of the Drum Membrane, Ossicles and Tympanic Cavity, of which want of space forbids detail, but interesting. Chapter XI on different forms of disease, in which the Labyrinth is supposed to be involved closes the book, except a convenient index.

This book is distinctively American, fresh and original in arrangement and detail. It deserves better type and binding than that in which this volume appears. Wm. Wood & Co.'s Cheap Series, of 1880. D.

ARTICLE XVI.—A TEXT BOOK OF PHYSIOLOGY. By M. Foster, M.A., M.D., F.R.S., Prælector in Physiology and Fellow of Trinity College, Cambridge. With Illustrations. Third Edition, Revised, 8vo. Cloth, pp. 720. \$3.50. London: MacMillan & Co., 1879.

This book is well adapted for students, on account of the amount of information it contains, of the regular arrangement of the matters treated, and of its cheapness, which is worth some consideration in reference to class books; but it will not replace the classical works of Dalton and of Flint, Jr.

The essentials of physiology are all contained in that volume, some in rather a concise manner, as Menstruation, in less than three pages, Impregnation, two pages, Nutrition of the Embryo, six, and Parturition, two. In an appendix of fifty-eight pages, small type, is treated the Chemical Basis of the Animal Body, a study which is fast increasing in the medical world, and is destined, some suppose, to revolutionize in the near future, our treatment of diseases.

The Chapters on Vascular Mechanism, the Contractile Tissues, Digestion, Respiration and Nutrition, form the bulk of the volume. It may be remarked that the fluidity of normal blood,

the origin of the red corpuscles, the question, Do we see objects upside down, and the origin of the special nerve of taste are yet unsatisfactorily explained? Regarding the beat of the heart, the author says: "From these facts (p. 169), the conclusion is drawn that the spontaneous pulsations in the heart are in some way associated with, and due to the action of the ganglia scattered in its substance."

The style of printing and binding is inferior to that of medical books in general, at least in this country. It is well illustrated, and will command a large sale on account of its medium size. The publishers announce a cheap "Student's" Edition, but the "Text Book" is surely not too voluminous for American medical students.

H. D. V.

ARTICLE XVII.—HEADACHES: THEIR NATURE, CAUSES AND TREATMENT. By W. H. Day, M.D., Member of the Royal College of Physicians of London; Physician to the Samaritan Hospital for Women and Children. Third edition, with illustrations. 12mo. Cloth, pp. 322. Price \$2.00. Philadelphia: Lindsay & Blakiston. 1880.

The first page, on opening the book, being devoted to Opinions of the Press, it would be difficult to surpass the praises there addressed to this deserving little book. It is surely a fine example of modern book making, and will greatly profit the buyer, if he can afford to pay \$2.00 for such a monograph. It is all original matter, and the treatment, which is the best part of the book, is methodical and adapted to all sorts of cases and circumstances.

It is handsomely bound and beautifully printed, contains 116 valuable and practical formulæ, and a chapter devoted to Headaches of Childhood and Early Life.

H. D. V.

BOOKS AND PAMPHLETS RECEIVED.

How Persons Afflicted with Bright's Disease Ought to Live. By J. F. Edwards, M.D.

Lectures on Surgical Disorders of the Urinary Organs. By Reginald Harrison, F.R.C.S.

Manual of Medical Jurisprudence. By Alfred S. Taylor, M.D., F.R.S.

Transactions of State Medical Society of Pennsylvania, for 1880. Thirtieth Annual Session.

Yellow Fever : Its Ship Origin and Prevention. By R. B. S. Hargis, M.D., Pensacola, Florida.

Dr. Paul Börner's Reichs-Medicinal-Kalender für Deutschland, auf das Jahr 1880 und 1881.

Medical Heresies, Historically Considered; Evolution of Sectarian Medicine; Sketch and Review of Homœopathy. By Gonsalv C. Smythe, M.D.

Hernia, Strangulated and Reducible. By J. H. Warren, M.D.: Boston, Mass.

Compendium of Microscopical Technology. By Carl Seiler, M.D.

The Descriptive Atlas of Anatomy; A Representation of the Anatomy of the Human Body: In 92 Royal 4to Plates, Containing 550 figures. Philadelphia: J. B. Lippincott & Co. 1880.

Ophthalmic Test-Types, and Color Blindness Tests. Wm. Wood & Co., New York.

Atlas of Human Anatomy. Arranged according to Drs. Oesterreicher and Erdl; with Explanatory Text by J. A. Jeancon, M.D. A. C. Wilde & Co., Cincinnati. Complete in 45 parts, at 75 cents each. Numbers 983, 984, 985, 986, 987, 988, 989, 990, 991, and 992.

By an error of the printers, the valuable selected article published by us last month, entitled "The Human Face," by Prof. Ambrose L. Ranney, of New York, was not duly accredited to the *New York Medical Journal*. We beg the indulgence of our esteemed cotemporary, as well as our many readers, for this apparent discourtesy. The *New York Medical Journal*, it need not be said, is one of the brightest and best of our exchanges, and we hope to go to it again for good selected material. We are sure that it will supply its readers with as good pabulum in the future as it has in the past.

DURING the last eighteen months, Prof. Wm. H. Byford, of Rush Medical College, has performed twenty-two ovariectomies with nineteen recoveries, a remarkably favorable showing, which the professor attributes, not so much to his well-known skill as an operator, as to the precautions taken in what is now well-known as Listerism.

Editorial.

MEDICAL LEGISLATION.—The time has come again, when the legislative bodies of most of the states are in session and ready to legislate on all conceivable subjects.

During the last few years there has been an increasing disposition on the part of these legislative bodies to enact laws for the protection of the people both against the spread of contagious and infectious diseases, and the impositions of unqualified medical practitioners. Both these objects are of very great importance to the people, and are, therefore, worthy of the most careful consideration, especially by all intelligent physicians. In regard to the enactment of laws for the protection of the people against the impositions and dangers of unqualified *Doctors*; or, in other words, laws to secure for the people the services of a thoroughly educated medical profession, there are now, and always have been, practical difficulties not easily overcome.

These arise in part from a want of knowledge on the part of the people, or their representatives in the legislatures, concerning the nature of medical studies and the means necessary to prosecute them successfully; and in part from the difficulty of establishing and maintaining proper and efficient tribunals in each State for exacting impartially the proper standard of attainments from all those who propose to enter upon the practice of medicine.

An adequate knowledge of the first, would show the members of every legislative body: first, that no person could be properly prepared to commence the study of any department of medical science until his mind had been disciplined and stored by a thorough study of all the ordinary branches of an English educa-

tion, including mathematics, physics, and the natural sciences. Second, that the very nature of most of the branches of medical science, such as anatomy, physiology, chemistry, materia medica, pathology, practical medicine, surgery, midwifery, etc., absolutely require for their practical study the use of material, apparatus, and means of illustration, that can be found no where except in medical colleges, and hospitals for the sick. So large a proportion of the whole field of medical knowledge requires for its proper practical acquisition the means furnished only by such institutions, that, at least, one-half of the whole period allotted to medical studies should be spent in them. Third, that a medical college, to fulfill the purposes for which such institutions are needed, must have a sufficient supply of anatomical material; sufficient chemical, physiological, and pathological laboratories and apparatus; adequate cabinets or museums of materia medica, pathological specimens, comparative anatomy, etc.; and such intimate connection with permanently established hospitals and dispensaries for the sick as will afford ample opportunity to study disease at the bedside; in other words, that a proper medical college for the education of young men to practice medicine, is something more than the organization of six or eight doctors into a college faculty under some special charter or general incorporation law, with an annual term of from sixteen to twenty weeks of simple didactic instruction, with the power to grant *diplomas* to whoever they please at the end of it.

These three propositions, so plain and familiar to every intelligent and thoughtful medical man, but altogether obscure to the ordinary, non-professional members of our legislature, show very clearly that no *law* can be devised which will practically insure to the people the services of a body of well qualified and reliable physicians and surgeons, without including in its provisions: first, a proper standard of preliminary education to be determined before entering upon the study of medicine; second, the minimum length of time that must be devoted directly to the study of medicine, and how much of that time shall be spent in attendance on a proper medical college; and third, what shall constitute a medical college to be recognized under the law.

Yet most of the laws that have been enacted in the several

States, during the last twenty years, for the regulation of the practice of medicine have wholly failed to regard any of these fundamental propositions. The law of this State passed in 1877, for regulating the practice of medicine and establishing a State Board of Health, does not touch either of these topics; but simply requires the applicant for license to practice in the State, to present and verify the rightful possession of a *diploma* from some "chartered or legally established medical college in good standing," or undergo an examination in the several branches of medicine by the Board of Health.

The law does not say whether the college issuing the "*diploma*" must have any adequate means for imparting medical instruction, or whether it must require the attendance of the student one, two or three terms, or whether the terms shall be one or six months long; but only that it be legally established and in good standing. But when it is remembered that any five or more physicians or even non-professional men can "legally" establish a medical college under the general incorporation laws of most of the states, and that the words, "good standing," are altogether too vague for any practical use, it will be apparent that the law really amounts to nothing more than one of registration, without any power to exact a given standard of education.

So, too, the power given to the State Board to examine and license those who have no diploma, is equally indefinite. It does not restrict the Board to an examination of those only who have faithfully devoted three years or more to the study of medicine after having had a proper preliminary education, and who have spent at least half of that time in some properly organized medical college and hospital; but leaves it entirely at liberty to examine any applicant they please, whether he has studied six months or six years, or has ever seen the inside of a medical college or not. It is needless to add that the value of such a law in securing to the people the services of a thoroughly qualified medical profession, must be very small; and even the little that it can accomplish depends entirely on the character and faithfulness of the members of the State Board. And this leads to some remarks in regard to what we have mentioned as the second source of difficulty in the framing of efficient laws for maintaining

a proper standard of medical education, namely, the creation and perpetuation of an efficient State board or executive medical body, whose duty should be to see that the laws relating to the proper qualification of medical practitioners were faithfully observed and executed. All will agree that such a board should be composed mainly, if not exclusively, of medical men of the highest degree of probity and learning, and its powers and duties should be clearly defined. If the law regulating the practice of medicine in this State should be so amended that after a given date (say January, 1883), no one should be permitted to enter upon the practice of medicine within its limits except those who should present to the State Board a diploma from some medical college which required for admission to its halls such a preliminary education as we have already indicated, and three full years of medical study; attendance on three annual courses of college instruction of not less than six months each, and regular attendance on clinical instruction in a general hospital for the sick, at least, one collegiate year, before granting the diploma; then the question as to how and by whom the board should be appointed, would be of less consequence simply because the duties of the board under such a law would be chiefly clerical. To verify the genuineness of the diploma and the rightful possession of it, and the true status of the college granting it, would constitute their chief duty in this direction. For the execution of such a law, our present State Board of Health, or any other board similarly constituted and appointed, would not be objectionable.

But if the board is to retain the power to *examine* and *license* any who have not received a diploma from some recognized medical college, it should be compelled to limit such examinations to those applicants who had complied with all the requirements necessary for being admitted to the final examination for a diploma in a college of recognized standing.

If these alterations were made in our State law, it would at once fix a minimum standard for the education of the profession of a fair and honorable character, make a reliable guide for the action of the State Board, and it would compel a most desirable and general advance in the standard of medical college requirements and instruction, and yet it would inflict no injury on any

medical school in our own State. To effect the objects here proposed it would only be necessary to amend the present law for regulating the practice of medicine, passed in 1877, by inserting the following after the words "good standing," in section 3: [but the diploma of no medical institution shall be received that does not enforce the requirement of a good academic or high-school education for the admission of students; and exact the study of medicine at least three years, direct attendance on the college instruction at least three annual terms of not less than six months each, and on the clinical instruction in a general hospital at least one college term, and a full examination in all the branches taught, as conditions for graduation.] And, in the same section, after the words "examined by the Board," insert the following: [but no person shall be thus examined by the Board unless he has fully complied with all the educational requirements that would be necessary to entitle him to an examination for a diploma by a recognized medical college.] D.

ADULTERATIONS OF FOOD.—Supplement No. 11, accompanying the *National Board of Health Bulletin* for January 1st, 1881, is filled with the report of Dr. Charles Smart, U. S. A., giving the results of his investigations concerning the adulterations of articles used for food or in its preparation for use.

The articles examined were teas, coffees, chicory, sugars, syrups, flour, corn-meal, lard, bread, baking-soda, cream of tartar, baking-powder, black pepper, white pepper, allspice, ginger, nutmegs, mace, cloves whole, cloves ground, cinnamon whole, cinnamon ground, cassia, cayenne, mustard, vinegar, pickles and colored confectionery.

The whole number of samples examined was seven hundred and thirteen—three hundred and four of which were obtained from the most reputable dealers, and four hundred and nine from sources that might be regarded as suspicious. Of the former, less than eight per cent. gave evidences of any important adulterations; and of the latter, forty-four per cent. As to the character of the adulterations, the report says: "Fortunately,

with such exceptions as the alum in bread and the baking material, the sulphate of lime which oftentimes replaces cream of tartar in household baking, the debasement of milk by diluting, and the poisonous pigments used for coloring confectionery, the adulterations cannot be considered as deleterious. They affect the pocket of the individual rather than his health, so that, to use the words of the committee appointed by the National Board of Trade to award prizes for the best draught of an act repressive of adulterations, 'the question of adulteration of food should therefore be considered not so much from a sanitary standpoint as from that of commercial interests; as being in the nature of a fraud in aiding the sale of articles which are not what they are represented to be.' " These results are much more favorable than was anticipated by many, and do not afford any strong indication that special repressive legislation is necessary.

CURIOSITIES IN MEDICAL TEACHING.—We are informed that much of the instruction given by a professor of *Materia Medica* in one of the homœopathic medical colleges in this city, is imparted in the form of questions to be answered by the class. The following are a few specimens of the questions and answers, taken verbatim by a student during attendance on one of the regular lecture hours in that school:

1. *Professor*.—What is the proper remedy for *mania*, with desire to cut and tear things? *Student*.—*Veratrum*.
2. *P*.—For pain in the abdomen flying upward? *S*.—*Bryony*.
3. *P*.—For *tip* of the *nose*, red and hot, particularly in warm weather? *S*.—*Belladonna*.
4. *P*.—For emaciation of upper part of the body while the lower part is enormously swollen? *S*.—*Lycopodium*.
5. *P*.—For child that dislikes to be washed or bothered? *S*.—*Sulphur*.
6. *P*.—For easily biting cheek, in chewing? *S*.—*Ignatia*.
7. *P*.—For mumps on the *left* side? *S*.—*Rhus Tox*.
8. *P*.—For mumps on the *right* side? *S*.—*Mercurius*.

9. *P.*—For constantly dreaming of dead persons? *S.*—Arsenicum.

10. *P.*—For constantly dreaming of robbers? *S.*—Ignatia.
These are fair samples of the whole.

CHANGES IN MEDICAL JOURNALS.—The *American Medical Bi-Weekly*, which was formerly published at Louisville, Ky., and edited by E. S. Gaillard, M.D., was for a time discontinued on account of the failure of the editor's health. But Dr. Gaillard having recovered his health and established himself in New York city, has resumed the publication of his journal in that place.

The *Arkansas Medical Monthly*, heretofore published at Little Rock, Arkansas, is to be moved to Memphis, Tenn., and continued under a new name. J. J. Jones, M.D., will continue to be its chief editor.

We have received No. 1 of the *International Journal of Medicine and Surgery*, published at No. 1 Chambers street, New York, and edited by Drs. B. Newton, A. Rose, N. Senn, H. A. Bunker, and C. N. Ten Eyck.

The Annals of Anatomy and Surgery, is the slightly changed title of a medical periodical well known to many of our readers, as we have heretofore had occasion to reproduce some of its valuable and original work. It is now under the editorial management of Drs. L. S. Pilcher and Geo. R. Fowler, of Brooklyn, N. Y. We commend its fruitful pages most heartily to all our surgical and anatomical friends, as well as to all who are especially interested in the important field which it covers, and, for that matter, what medical is not.

Selections.

DISEASES OF THE GLANDS OF THE FEMALE URETHRA. By A.
J. C. SKENE, M.D.

Last spring I called attention to the anatomy of two important glands of the female urethra, and made some contributions to their pathology. Since that time I have had opportunities for extending my observations, and I now offer the result of my investigations to this Society. For the benefit of those who may have overlooked the original paper in the *Obstetrical Journal*, and with the view of making what follows more clear, I will quote briefly the description of the anatomy of these glands.

Upon each side near the floor of the female urethra there are two tubules large enough to admit a No. 1 probe of the French scale. They extend from the meatus urinarius upwards, from three-eighths to three-quarters of an inch, parallel with the long axis of the urethra. They are located beneath the mucous membrane in the muscular walls of the urethra. The mouths of these tubules are found upon the free surface of the mucous membrane of the urethra within the labia of the meatus urinarius.

The location of the openings is subject to slight variation, according to the condition and form of the meatus. In some subjects, especially the young and very aged, and in those in whom the meatus is small and does not project above the plane of the vestibule, the orifices are found about an eighth of an inch within the outer border of the meatus. When the mucous membrane is thickened, relaxed and slightly prolapsed, or when the meatus is everted, conditions not uncommon among those who have borne children, the openings are exposed to view upon each side of the entrance to the urethra. The upper ends of the tubules termin-

ate in a number of divisions which branch off into the muscular walls of the urethra. These branches can be demonstrated by injecting the tubules with mercury and then laying them open.

I have called them glands because they differ in size and structure from the simple follicles found in abundance in this portion of the mucous membrane. When they were first discovered I presumed that they were mucous follicles which were accidentally of unusual size in the subject examined, but having investigated more than two hundred of them in as many different subjects, in which they were present and uniform in size and location, I became satisfied that they were worthy of a separate place in descriptive anatomy. This attention they have not heretofore received, nor have the diseases to which they are subject been referred to by pathologists. At least I have been unable to find any notice of them in the standard text-books on anatomy and gynecology in English, French and German. It is easy to understand why these insignificant structures should have been overlooked by anatomists, or, if noticed at all, to be classed with the ordinary mucous follicles. It is only when their pathology is understood that their real importance becomes apparent.

The diseases of these glands to which I invite your attention at the present time are :

First.—Subacute inflammation or catarrh.

Second.—Gonorrhœal inflammation and its results or products.

Third.—Inflammation following vulvitis such as occurs in strumous children.

Fourth.—Tuberculosis.

The first affection named in the classification is a mild form of catarrhal inflammation which occurs in connection with subacute vaginitis such as we find accompanying ordinary uterine disease or following parturition. This condition gives the patient very little, if any, inconvenience, and readily passes unnoticed by the gynecologist unless especially looked for. The mouths of the ducts are slightly enlarged, and sometimes surrounded by a very narrow areola of a bright-red color. By pressure upon the urethra from behind forward they discharge a white serous fluid. The cases which have come under my observation were detected while examining for other diseases, and none of them were at-

tended with any marked symptoms. In some of them the inflammation disappeared without treatment. In others it continued without showing any tendency to increase in severity or lead to important changes of structure. It is quite possible that a non-specific vaginitis might induce a high grade of inflammation in these glands with all the pathological changes to be described hereafter, but up to the present time I have not observed any evidence that such is the case.

Gonorrhoeal inflammation of these glands is of the chronic purulent variety, and in time extends from the mucous membrane of the ducts to the surrounding tissues. It does not usually attract attention until the vaginitis and urethritis has subsided.

The lesions presented differ according to the length of time which the disease has existed. When examined early there is slight swelling of the lower portion of the urethra. The mouths of the ducts are larger than normal, and the tissues around them are congested. There is tenderness to the touch, and pressure upon the urethra from above downwards causes a free purulent discharge. Sometimes it is necessary to separate the labia of the meatus in order to see the orifices of the ducts. In cases of longer standing the mouths of the ducts are brought into view by a slight prolapsus and eversion of the mucous membrane caused by swelling. The mucous membrane in the neighborhood of the ducts becomes thickened by proliferation of the areolar tissue and epithelium, presenting an irregular papillomatous appearance of a deep red color, upon the inner sides of which the orifices of the ducts appear like minute ulcers, of a yellowish gray color. The lower third of the urethra is generally thickened and indurated. The general appearance of the parts is quite like caruncle or papilloma of the meatus. In fact, inflammation of these glands has been mistaken for caruncle, at least it has been my misfortune in the past to confound the two affections, and I cannot see how others could have made a differential diagnosis, if guided by the current literature upon the subject. In a large proportion of the cases of this disease I have observed that upon the inner side of the labia minora, which rests upon the meatus, there are patches of inflammation which are caused and kept up by the purulent discharge from the glands. These circumscribed

patches of inflammation sometimes extend downwards on each side of the introitus, and occasionally involve the *carunculæ myrtiformes*. This gives rise to much tenderness, which simulates *vaginismus*. The chief symptoms are extreme tenderness to the touch, great discomfort in sitting and walking, occasional sharp stinging pain, and a continual sense of heat in the parts. There is painful urination in some cases, and in others there is not. In some of the most marked cases that I have seen, this symptom was entirely absent, while in less severe forms it has been present. That peculiar difference in the history of cases I have attributed to the fact that in the well-developed forms of the disease there is considerable eversion of the lower portion of the urethra, which throws the diseased and tender portion outwards, and thereby prevents the urine from coming in contact with the irritable surfaces. Occasionally there is frequent urination, due most likely to sympathetic irritation of the bladder. The symptom which is always present, in varying degrees of severity, is tenderness. The diagnosis and treatment may be left unnoticed until the other two affections of these glands have been described.

Purulent vulvitis, which occurs in children, especially those of scrofulous diathesis, occasionally extends to these glands. When such an extension of the disease occurs, it adds its well-known rebelliousness to treatment. The original inflammation of the vulva may be relieved, but if the glands are involved, the purulent discharge from them will soon light up the disease of the external parts. From my own observations I believe that these glands rarely become involved, but when they do there is little possibility of curing the affection of the vulva until the glands are first successfully treated. There is really nothing peculiar in the clinical history of this form of disease, except its etiology, and therefore I need not dwell longer upon it, further than to say that I have seen a case of this kind, which had resisted treatment for a long time, but promptly recovered after the inflammation of the glands was detected and treated.

Tuberculosis, or tubercular inflammation of these glands, is an affection to be distinguished from the other forms of disease already considered. It occurs only in those who are of the tubercular diathesis, and may appear as a primary affection, or be

developed during the progress of tubercular disease of other organs of the body. When the disease is first established it presents the same pathological appearances as have been described under the head of gonorrhœal inflammation. There is, apparently, the same purulent discharge, with redness and proliferation around the mouths of the ducts, giving the peculiar caruncular or papillomatus appearance. The only peculiar characteristics of this affection that have been observed up to the present time, are the accumulation of caseous material in the tubules, and ulceration, which occur in more advanced stages of the disease.

The ulceration takes place in the newly formed tissue in the walls and around the mouths of the tubules. These caseous concretions and ulcerations are not found in all cases. Indeed, they are rare.

There is generally urethral inflammation accompanying this condition of the glands. It sometimes begins simultaneously with the disease of the glands, and when it does not, it follows soon after. In time the bladder becomes affected, and also the kidneys. At whatever point the disease commences it increases in severity, and extends until the whole of the urinary organs are involved, unless the patient succumbs before it has completed its progress. In some cases there are polypi and papillary growths of small size found along the urethra. These, I believe, originate in inflammation of mucous follicles and papillæ of the mucous membrane.

The symptoms presented in this form of disease are the same as those found in other forms already described. From this it will be observed that the physical appearance and the symptoms are insufficient to establish a diagnosis. When there are ulcerations and caseous deposits the disease may be strongly suspected of being tubercular. Still, there is room for doubt until we find tuberculosis of other organs. This either precedes or soon follows the appearance of the disease of the glands.

In all the cases which have come under my observation the lungs were either tubercular when the patients were first seen, or became so soon after.

This affection is a source of great annoyance and suffering, and no doubt hastens the progress of the pulmonary disease with which

it is generally accompanied. It has also another very important significance in the fact that it indicates the commencement of general tuberculosis of the urinary organs. The diagnosis of tubercular cystitis and urethritis has always been exceedingly difficult in the early stages of the disease. Indeed, it has been deemed impossible by most authors to distinguish ordinary cystitis from the tubercular form until the disease became developed in other organs of the body. Now that tuberculosis of these glands is understood, a valuable aid to diagnosis has been gained. Whenever an inflammation of these glands is found that cannot be traced to a former gonorrhœa or vulvitis, it is almost sure to be tubercular, and the diagnosis is placed beyond doubt if the patient has the tubercular diathesis.

I am greatly indebted to Dr. Terrillon, of Paris, for some very valuable information upon the relations of disease of these glands to tuberculosis. In the *Progrès Médical* for this year he published a very elaborate article entitled "Polypoid Excrescences of the Female Urethra, Symptomatic of Tuberculosis of the Urinary Organs," which is full of original observations of inestimable value. In comparing his observations with my own I am fully satisfied that he has mistaken tubercular inflammation, and its products, of these glands, for excrescences, in some of his cases at least. Without being aware of the presence of these glands, it is perfectly natural that he should class those vascular developments found at the meatus urinarius among the ordinary neoplasms of the urethra, just as all others have done in the past. There is every reason for believing that the excrescences which Dr. Terrillon refers to differ in their essential pathology from the ordinary polypoid growths, usually called carunculæ, which are found in the urethra, and are associated with tuberculosis. And as the history of his cases coincides with the history of the cases of tuberculosis of these glands which I have seen, I am compelled to believe that he has not fully comprehended the true pathology of this affection. He has, however, clearly shown the relation of this affection to tuberculosis of the urinary organs, and that alone is worthy of the highest honor.

Dr. Terrillon's article is too long to be given in full, but a few condensed extracts will show his views upon the subject. His

description of the symptoms and the general appearance of the parts affected are so much more complete than my own that I prefer to give them in full:

"The fungoid growths show themselves usually at the surface of the urethral orifice. They are projecting and pedunculate. Seldom isolated, they form most frequently a wreath, more or less regular, around the orifice of the meatus. In very aggravated cases they are united into a mass and then form a real projecting tumor with a fringed aspect, of a lively red. In the center of the tumor is easily to be found the orifice of the urethra masked by those papillary growths. The symptoms of fungoid excrescences of the urethra accompanying tuberculosis of that organ and the bladder includes the observation of two distinct parts: First, the study of the growths themselves and the character of them. Second, all the phenomena to be found in cystitis and tubercular urethritis. Sometimes the symptoms of the two lesions are found together; sometimes, on the contrary, they exist singly up to a certain period of the disease. One of the special symptoms of this affection is the exquisite tenderness of which these fungoids are possessed. The least touch, the least rubbing, the passage of urine suffices to cause the most extensive pain which renders life insupportable. This hyperæsthesia, which may extend to the neighboring parts, causes at the sides of the orifice of the vulva symptoms of the most acute vaginitis. These are the ordinary symptoms of fungoid growths when existing externally." The author at this point refers to excrescences found within the urethra as being of the same nature as those found at the meatus. He makes no distinction between the two forms of disease. There is, however, a difference worthy of notice. Excrescences found within the urethra are usually cystic polypi or enlarged papillæ of the mucous membrane, conditions which may exist independently of tuberculosis. I infer from some other statements made in his writings that the granular urethritis—as we are in the habit of calling it—is generally secondary to the disease of the urethral glands. The views of this author in regard to the order of development of urethritis, cystitis, and finally tuberculosis of the lungs, are set forth in the following:

"Sometimes, at the time of their appearance, these fungoids

appear to be altogether isolated from all other serious lesions. Yet they seem to precede tuberculization, or soon take a rapid course in developing granulations in the urethra. In other cases these growths may appear some time after the symptoms of tuberculization have been established." The cases recorded by Dr. Terrillon, and also those which have come under my own observation, show that, as a rule, this disease of the urethra precedes the appearance of tuberculosis in other organs of the body, such as the lungs. It also is one of the first lesions observed in tuberculosis of the urinary organs. The following is from Dr. Terrillon's paper on this subject:

"Now comes up the important question, whether these polypi of the mucous membrane should be considered as a primary or an idiopathic lesion, and I think that it can be solved in the following manner: These polypi are most assuredly the result of chronic inflammation and an irritation of the mucous membrane. Now, development of tubercular granulations within the mucous membrane is at first the cause of irritation, before any changes in the urine; ulceration does not occur until after a sufficient length of time. With one of our patients the first irritation induced the formation of polypi, and the common painful symptoms followed. Their extirpation gave relief, but that lasted only up to the time when urethro-vesical ulceration occurred. It will be observed that in this case the affection began in the urethra and extended to the bladder, and also secondarily involved the left kidney (ascending tuberculosis), causing finally change in the urine, with the free formation of pus. I therefore do not hesitate to maintain that the fungoid polypi are the result of tubercular irritation of the mucous membrane of the urethra, which gives rise to the very serious symptoms which occur in the early stages of the disease. Without them urinary tuberculosis would not give rise to those striking symptoms until after a sufficient length of time, when the ulcerations appear in other organs. An analogous phenomenon, which is observed in the larynx, should be mentioned here. We know, as a matter of fact, that the tuberculization of the larynx does not only occasion ulceration, but also polypoid growths. There is produced at the expense of the ulcerated mucous membrane an hypertrophy and proliferation,

in the form of cauliflower excrescences or cock's-comb growths, a species of polypi smaller or larger, by which the glottis might be more or less obliterated. It will therefore be admitted that there is a resemblance between laryngeal excrescences and those found in the urethra of women.

The polypoid excrescences of the female urethra show, from an etiological point of view, to be of two distinct varieties. The first variety is idiopathic, and may be recognized by a slight irritation. The prognosis is good; extirpation in these cases gives a rapid cure. This is the most frequent variety. The second kind, although they give the same outward appearances as the first variety, are on the contrary accompanied from the outset by urethritis and tubercular cystitis, of which variety these lesions constitute important symptoms.

When I found inflammation of these glands associated with tuberculosis of other organs, it occurred to me that the disease of the glands might be of the same nature, or tubercular, but I am indebted to the writings of Dr. Terrillon for the full knowledge of the pathological relations of the affection of these glands to tuberculosis of the other urinary organs. We have studied the subject from different standpoints, and the combined results of our labors cover the ground pretty thoroughly. While he has clearly settled the relation of these excrescences to tuberculosis of the urinary organs, I have satisfied myself that these new growths are but the products of a tubercular inflammation of the urethral glands, the existence of which were, I presume, unknown to him. The treatment of the various forms of inflammation of those glands may all be discussed at the same time.

It is settled upon the best evidence that when these glands become inflamed there is no natural tendency to their recovery. Those who have read the history of my first published case will remember that I employed all the recognized treatment for carcinoma, but at the end of a year my patient was no better. Dr. Terrillon has had a similar experience. On this point he says: "A characteristic more important, and to which I desire to call especial attention, because it indicates well in my opinion the consecutive development of these excrescences, is their tenacity and the facility with which they recur. Really, one can see in

the observations (meaning his cases) in which continued surgical intervention has been practiced, it brought about either no relief or only a momentary amelioration."

This experience in the treatment of these excrescences is proof positive to me that they originated in inflammation of the urethral gland. My own observations have given the same results, showing clearly that these growths cannot be arrested until the inflammation of the glands which causes them is eradicated. It is otherwise with polypoid excrescences due to other causes. If they are completely removed they do not return as a rule.

The treatment which I employed at first was to inject the tubules with the ordinary solutions used in the treatment of inflammation of mucous membranes, using for the purpose a hypodermic syringe, with the point of the middle rounded off. This method I found useful, but very tedious. It then occurred to me that laying open the tubules their whole length and keeping them open would prevent the purulent accumulation (which acts so effectually in keeping up the inflammation) and also bring the affected parts within easy reach of the necessary treatment. This method was suggested in my paper published last winter, and since then I have tried the method in quite a number of cases and found it entirely satisfactory. In the majority of cases it is all that is required to effect a complete cure. The method of operating is as follows: The patient is placed upon the left side, and a Sims speculum used to keep the labia apart and retract the perineum. This brings the parts well into view, and within easy reach of the operator.

The position and depth of the tubules having been first ascertained, the probe-pointed blade of a very fine scissors is then introduced, and the posterior wall divided its whole length. To prevent the parts from reuniting, a small piece of cotton, saturated with persulphate of iron, should be packed in between the divided edges. Brushing the surfaces over with the iron, without using the cotton, will answer, although less certainly, to prevent reuniting. Very little after-treatment is required. In the majority of cases recovery follows the operation of laying open the canals. Sometimes the inflammation lingers in a modified form, but yields to a few applications of nitrate of silver or sulphate of zinc. In

several cases in which the excrescences were abundant, they remained after the operation, although very much reduced in size. An application of nitric acid destroyed them, and they have not shown the least disposition to return.

AN interesting case of a foreign substance in the trachea is detailed in the *Nashville Journal of Medicine and Surgery*.

The patient, aged seventeen, while eating hickory nuts suddenly started to run and inhaled a piece into the trachea. Severe coughing ensued, but resulted only in failure to dislodge the substance, which was located after a time in the right bronchia, causing considerable cough and expectoration of mucus with occasional show of blood. The young man continued hale and hearty and well developed, and grew to full manhood doing ordinary labor, till suddenly profuse hæmorrhage ensued which was nearly fatal, but yielded to energetic treatment. From this time there was profuse discharge of pus, mixed more or less with blood. Eleven months subsequently while the young man was in bed, he had a severe spell of coughing, and felt something suddenly give way at the point of trouble, followed immediately by a sense of strangulation and impending death. After energetic efforts a large quantity of pus, largely mixed with blood, was discharged, and cause of all this suffering and danger found in the mass. A piece of hickory nutshell almost perfect with a piece of the kernel still in it, which dropped out when washed. The shell measured when dried 9-16ths of an inch on two sides and 7-16ths on the other, and weighed 10 grains, was convex on one side, concave on the other, and not apparently softened, though in the lung exactly three years and seven months. The young man continued to improve daily, and there is no reasonable doubt of his ultimate recovery.

THREE deaths from chloroform are reported as having occurred in November and December, one in Kentucky, one in London and one in Vienna.—(*New York Medical Record*.)

Original Translations.

MENTAL STATE OF THE PERSECUTED. From *Le Praticien*,
Sept. 13, 1880. Translated by H. D. Valin, M.D.

Till late years, persecuted lunatics remained unobserved, and the clinical history of their persecutions was unknown. This was owing to a lack of classification of mental diseases; they were referred to the melancholy of Pinel, the lypæmania of Esquirol, or to the monomania with sad ideas of Baillarger who touched this question, thirty years ago, and divided the monomaniacs into two classes, the gay and the sad.

In 1852, Lasègue described, in the *Archives Générales de Médecine*, a category of patients who came under his observation at the Prefecture of Police. Ideas of persecution were prominent in their disease, and suggested the appropriate name of delirium of persecution. Legrand du Saulle, since 1864, studied the subject in connection with Lasègue among the patients of the Prefecture of Police, wherein every day brings some case of this kind. In 1871 he published a monograph on the delirium of persecution. This delirium is very frequent, since 500 cases occur every year in Paris.

Men predisposed to the delirium of persecution are of little intelligence; the start is slow, and the first cause can be referred sometimes to twenty years distance. No one could observe the evolution of that disease. The subject just attacked, is undecided, foggy, anxious, selfish, and morose; he abstains from the commerce of other people, and lives retired.

This period of evolution, unobserved, except by the patient's relatives, may be slow, and meanwhile he reasons with thought; he coldly accepts humiliation and contrariety without any reac-

tion of his mind. These ideas return after he is calmed, and again he makes up his mind to follow them. Some day he chances to be more bothered than usual; after interrogating himself, he sees hidden enemies, secret stratagems; he imagines occult influences, the police, Jesuits, and Free Masons; then physical causes; he accuses nature, invokes electricity, somnambulism, and ventriloquy, imagining himself persecuted by trifling objects. A skeptic at first, his doubts weaken, and the probable becomes a certitude. Then he ceases to dispute, accepts everything, is suspicious of nobody, but accuses the oddest influences. He may take sudden determinations, give up his occupation, change his residence, and accept a lower position because he is mocked, or because he heard somebody whispering about him.

The most important symptoms are hallucinations of hearing; and no decision or determination but he will take to escape them. He will do anything to avoid a return of that hallucination. Accordingly, having formed the habit of retiring from the café at 11, he goes out at 10 since he heard some one insulting him, and then, ceasing to hear anything but insults, he returns, and determines to retire at five. Just now a true influence is felt, that of the medium in which he lives. The linguist has this advantage that his hallucinations are in any language, in French at Paris, in Italian in Milan, etc. A mere change of places often suffices to cause these hallucinations to disappear, but they return.

The original cause of the delirium of persecution often arises from a mere pretext, while the greatest misfortunes produce nothing but prostration and dejection. The persecuted remarks that people stare at him, but generally he has no hallucination of sight, unless he should be an epileptic or a subject of alcoholism. One experiencing abnormal sensations has illusions at first; it seems to him that one passing by whispered his name; a look, exchanged between two persons near him, seems a signal. It is as yet an auditory illusion, yet it strikes him vividly. This period of illusion is succeeded by one of hallucinations; he is very wretched; the threatening voice comes from the ceiling, the floor, the walls, or from his bowels. He claims to have been abused and wronged. He pays attention to all the invective

tives which he heard through the ceiling, or the floor; he accepts everything, lives by himself, reports everything to himself. He takes no interest in important events, and cares for nothing else but what is done to him. A complete stranger to everything but himself, a more selfish man never was. He does not try to investigate the motives for which he is persecuted, nor the authors of such stratagems. A noise strikes his ear; no use to try his sight, it is another trick against him. He abandons himself to fanciful appreciations and imaginary fears. The husband, the father and the citizen have disappeared and left a doubly selfish man, living in his delirious conceit. At last he believes that every one is acquainted with the persecutions which pursue him.

These patients have a peculiar language; it is a sort of special vocabulary. They say that they have been consulted in their thoughts, some one has repeated through their mouth, they allude to their prattlers, to their good and evil voices, but they do not say voices, they say, my invisible, my secret persons, my locations, my speaking ideas, etc. They borrow physical terms, think themselves under the influence of some natural force, and talk of coils, currents, and commotions. Often the hallucination of hearing rests on a true fact. A man who stole a silver spoon, when 18 years old, heard, 25 years later, on entering the asylum, a voice saying: That spoon, you stole it.

One of the most interesting cases is that of Jean Martin, quoted in 1877 by Legrand du Saulle. He heard a voice bringing a real fact back to his memory after thirty-two years: "Here is the masturbator of Father Michel." He was forty-seven then, and he armed himself, bought a revolver, and had a tin coat-of-mail made. His hallucinations were not constant and would cease during Mass from his content of mind. On October 9, 1876, he met the famous Michel, and fired five times at him. After the accomplishment of the murder he calmly delivered himself a prisoner. Three hours later, he wrote a relation of his delirium of persecution to his preceptor. He claimed to have been the victim of Michel for 32 years; the persecuted always inverts rôles. On being confronted with his victim, Jean Martin exclaimed, "I recognize here the rotten being who poisoned my life; he has

been my murderer." From that time, hallucinations of hearing ceased for eighteen months, in Meoulin's Asylum, where he was placed, but returned under another form; now the guillotine threatens him.

The persecuted have associated ideas with fundamental ones. They are hypochondriac, and liable to murder their physicians. They dread to be poisoned, hence their life is unbearable. The persecuted buys his food himself, never deals twice with the same man, and may even leave the country on that pretext. They try to poison him with unseen powders or gases. Powders are thrown into his room, or they come down the chimney into his bed, hence he goes to sleep elsewhere. He speaks of asphyxiating gases (for he seeks no serious explanation of things), putrefied miasms, and imponderous chemical atmospheres. These gases fall from the ceiling, along the chimney, or escape through the floor; then he closes all the openings, else he leaves the windows open at night in winter.

As an associated delirious conception, there is also the idea of greatness. They infer that the will which leads such unremitting enemies must be very stubborn, and their number great. Some day they conclude that they must be important men to excite so much animosity. They study their person and ask, who am I? But there are many bastards in that class, which fact lowers their characters and their manners, for such a position is ill-born in life. After meditating, the persecuted believes that he may be the son of an important man, then writes his novel; he was substituted for another child; he is the son of Don Carlos, or of Napoleon III. After the delirious theory is formed, they never get over it. They may even bring suits before the law, and may find proofs to substantiate their claims.

How frequent is the delirium of persecution? Lasègue and Legrand du Saulle found one in every six or seven insane. It is most common in men from the age of 30 to 40 years, the time of great works and excesses; in women, from 40 to 50. It has been remarked that celibacy and widowhood are most frequent causes. It is difficult to determine the influence of hereditary descent, for insanity is not readily divulged by the relatives because compromising and dishonoring. Legrand du Saulle

remarked that a great share is owing to inheritance from the mother, which is to that from the father in the proportion of three-fifths to two-fifths.

There is a multiplicity of causes, and it is difficult to affirm that the disease depends on any one in particular; lasting sorrows, seminal losses, and syphilis, are prominent causes. The depressing influence left in a predisposed mind by the idea of having taken mercury may be remarked. The delirium may point to some real fact as its origin. The course is slow, and the incubation is not easily determined. Only 20 per cent. recover. These at first experience slight intermissions or a temporary relief. Some are absolutely timid, but they are reserved and dissimulate; hence one should be very cautious. They well know that they are under the influence of a hallucination, but they wish to be discharged, and dissimulate their disease. The perpetual fear to be taken for masturbators is a torment of their life. Some persecuted institute law suits, or refer to the State, the rulers, or the government ministers, to obtain justice; some have walked to Paris from great distances for that purpose.

When the persecuted makes threats, it is because he is active. He always walks forward and kills. The passive persecuted is he that kills himself.

Taking other criminals and insane into consideration, the persecuted are divided into three groups: 1. Those that are not dangerous; 2. Those that are dangerous to themselves, not others; 3. Those dangerous to others. The first category is numerous enough. The second class comprises those who kill themselves. The third class is very dangerous; it comprises the numerous insane who commit crimes. A man sawed his wife's neck, because he heard a secret voice telling him that she had deceived him with somnambulists.

Various persecuted succeed in imparting their raving conviction to some acquaintance whom they render as insane as themselves, but much intimacy is necessary for that pathological contagion, as husband and wife, mother and daughter. This Lasègue lately described as double insanity. One can see these two persons raving in the same manner; but one may be capable of being cured, the passive, and the active incurable. If the passive is removed

from his companion, he may recover. He will lose his convictions, while the active remains firm in the delirium created by himself. But what is peculiar in that fact, is that the passive hears the same hallucinations, and the same same gastric voices; he is a victim to the same sensorial errors.

Ideas of persecution are met in the aged, as also in subacute alcoholism sometimes. The persecuted are difficult to treat because they dread to be poisoned. Some have recourse to hydrotherapy, which is capable of exciting or appeasing them. Leuret erected moral culture into a systematic treatment. The physical condition and its tendencies must be treated.

As a rule the persecuted strikes only the individual whom he has forewarned; this is peculiar to him. They make many wills, and forget their family; give to the poor, to the hospital, to any body; some leave their fortune to the Quinze-Vingt. It is difficult to determine their degree of responsibility; but it is always necessary to know whether the persecuted had hallucinations. As soon as hallucinations have had their sway, reason and free-will are lost, man is no longer his own master, and is no longer responsible.

THE annual reunion and banquet of the Alumni Association of Rush Medical College will be held in the Grand Pacific Hotel of this city, on the evening of Feb. 22d. The commencement exercises of the college will be held in Central Music Hall on the afternoon of the same day. The commencement exercises of the Chicago Medical College and the annual banquet and reunion of its alumni will be held on Tuesday, March 29th; due notice of the place will be given in our next number. The practitioners' courses of both schools will begin in and continue through the month of April.

Summary.

Collaborators :

DR. L. W. CASE,

DR. R. TILLEY,

DR. BYRON W. GRIFFIN,

DR. W. L. DORLAND,

DR. H. D. VALIN.

PHYSIOLOGY.

PHYSIOLOGICAL CHEMISTRY.—The Result of Experiments to Diminish the Malignancy of Fowl Cholera. Communicated to the Academy of Medicine of Paris, at its Meeting of October 26th, 1880. By Pasteur.

I take the liberty of recalling the following from among the various results which I obtained in my investigation of the affection commonly known as fowl cholera, and which I had the honor to report to the Academy.

1. Fowl cholera is a malignant disease in the first degree.
2. Its virus is formed of a microscopical parasite which is easily cultivated outside of the body of the animals subject to it. Hence the possibility of obtaining a perfectly pure virus, and the irrefutable demonstration that it is the sole cause of the disease and death.
3. The virus offers various degrees of malignancy. Sometimes the disease is followed by death, and at other times it results in a cure after the provocation of morbid symptoms varying in their intensity.
4. The differences noticed in the malignancy of the virus are not simply the result of observation based on natural phenomena, but the experimenter can repeat them at will.
5. As is the case with all infectious diseases in general, fowl

cholera has no relapse, or rather its relapses are in inverse ratio to the severity of the first attacks, and it is always possible to keep the virus so that the most malignant sample will give no result at all.

6. Without any desire to affirm any relation between small-pox and vaccine virus, it is evident that from the foregoing facts, there are conditions of the virus of fowl cholera in which this virus, relatively to the most violent attacks, will act in the same manner as human vaccine does to impart an immunity from small-pox. Vaccine virus causes a mild disease, vaccinia, preservative against a graver disease, small-pox. In the same manner, *the virus of fowl cholera has stages of diminished malignancy which communicate the disease, not death, in such a condition that after the animal has recovered, it is proof against the inoculation of a more malignant virus.* In some respects, however, there is a great difference between the two sets of facts, and it is not useless to remark that, concerning knowledge and principles, the advantage belongs to the study of fowl cholera; for, while we dispute yet the relations of small-pox and vaccinia, we are certain that the modified virus of cholera is a derivative of the most malignant virus of that disease; that we get the second through the first; in a word, that their fundamental nature is the same.

The time has come to give explanations of the capital assertion which is the basis of most of the preceding propositions, to-wit, that there are various states of malignancy in fowl cholera; a strange result, indeed, if we consider that the virus of that affection is a microscopical organism which one can handle in a perfectly pure state, in the same manner that we manipulate beer yeast or the micoderma of vinegar. Yet, if we consider calmly this mysterious notion of degrees in malignancy, we cannot fail soon to recognize that it is probably peculiar to the various species of that group of contagious diseases. Where is, then, the unity in one or the other of the diseases of that group? Citing one instance only, we see epidemics of small-pox of a very malignant character beside others very mild, without the differences being referable to external conditions of climate or to the constitution of the individuals attacked. Do we not see equally

epidemics becoming extinct by little and reappearing later and becoming extinct again. Hence the notion of the existence of a varying intensity in the same virus will not at most surprise the physician or the laity, although its scientific demonstration carries with itself a great interest. In the special case before us, the mystery chiefly appears in the fact that the virus being a microscopical parasite, the variations in its malignancy are easily observed. This is what I am going to clearly demonstrate.

Let us take for our starting point the virus of cholera in a very malignant state, in its most malignant state, so to speak. I have explained the manner of obtaining it with this property before today. It consists in taking the virus from a fowl just dead, not from the acute disease, but from the chronic. I have made the observation that the cholera takes at times this last form. Such cases are rare, although it is not very difficult to come across some instances. In these conditions, after the fowl has been very sick, it grows poorer and poorer, and resists death during weeks and months. When it dies, which fact happens after the parasite, leaving other organs, in which it had been confined till then, is taken into the blood where it grows, one can observe that whatever has been the original malignancy of the virus at the time of the inoculation, the sample taken from the blood of the animal, which took so long a time to die, is of a great virulence, which generally kills ten times in ten, twenty times in twenty. This fact being known, let us cultivate successively this virus, in a pure state, in a broth made with the muscle of the fowl, taking every time the seed of one cultivation in the preceding culture, and let us try the malignancy of these various cultures. It is demonstrated through experiments that this malignancy does not change in any sensible manner. In other words, if we agree that two virulences are identical whenever experimenting in the same conditions on an equal number of animals of the same species, the ratio of death being the same in the same time, we will come to the conclusion that the virulence of our successive cultures is the same.

In what I have just said, I have not mentioned the duration of the interval between two successive cultures, or, if we prefer, the duration of the interval from one sowing to the other, and its

possible influence on the successive virulences. Let us call attention to this point, however small its importance may appear. In an interval of from one to eight days, the successive virulences have not changed. In an interval of fifteen days the result is the same. In a month's, six weeks', two months', interval, there is no further change observed in the virulences. However, as the interval grows longer, there seem to be certain signs, of little apparent value, that the inoculated virus is becoming weaker. For instance, the rapidity, if not the ratio of death, undergoes delays. In various species of inoculated fowls, we see some very sick ones, lame and drooping, because the parasite in its progression through the muscles, has reached those of the thigh; the pericardites are lingering; abscesses appear around the eyes; at last the virus has lost, so to speak, a part of its fearful character. Let us once more reach beyond experiments lasting a short time, before beginning a repetition of cultures. Let the duration extend to three, to four, to five, to eight months and more, before studying the malignancy of the development of the new microscopical being. This time the result is thoroughly changed. The differences in the successive malignancies, which, till now, did not appear, or appeared in a doubtful manner, now manifest themselves through prominent effects.

With such intervals between the sowing, it happens that, on repeating the cultures, instead of identical virulences, that is, instead of ten inoculated fowls dying in ten, we meet the ratio of death coming down to nine, eight, seven, six, five, four, three, two, one in ten, and sometimes there is no death at all; that is, the disease attacks every inoculated individual, but they recover. In other words, in simply changing the mode of cultivation of the parasite, in the sole fact of sowing at longer periods, we have a method to obtain progressively weaker virulences, and finally a true vaccinal virus, which does not kill, but gives a mild form of the disease which imparts immunity from the mortal disease.

One must not believe, for all these alterations, that the results take place with a mathematical regularity and fixedness. Some crops, which have been waiting for five or six months to be sowed, may show a persisting and considerable malignancy, while others of the same origin will already be altered after a lapse of three or

four months. We will give soon the explanation of these anomalies, which are apparent only. There is often, indeed, a sort of quick change from an intense virulence to the death of the microscopical parasite in the interval of a short time. While passing from one cultivation to the following, one is surprised to meet an impossibility of reproduction; the parasite is dead. The death of the parasite is otherwise a constant occurrence every time that a renewal of the cultivation has been delayed a sufficient lapse of time.

And now the Academy knows the true motive of the silence which I kept, and the reason why I have asked the liberty of some delay before divulging my method of alteration. Time was an element in my experiments.

But what becomes of the microscopical organism during the course of these experiments? Does it change its form and its aspect, while changing its malignancy in so profound a manner? I could not affirm the non-existence of certain morphological relations between the parasite and the various virulences which it undergoes, but I must own, that, until now, it has been impossible for me to discover them, and that, if they really exist, they are invisible to the eye helped by the microscope, so small would be the virus in that case. The cultivations are alike for all the malignancies. If one seems to perceive feeble changes sometimes, it seems in a short while to be nothing but an accident, and they do not reproduce themselves in the following cultures, something remarkable is that if we take each variety of virulence as the starting point of new cultures, successively repeated at short intervals, the variety of virulence is preserved with its proper intensity. Suppose the case of an altered virus which kills but one time in ten; it retains this virulence under cultivation if the intervals of sowing are not very long. An equally interesting fact, although contained in the general course of the preceding observations, is that an interval sufficient to kill an altered virus spares a more virulent virus which may be thereby altered but which does not necessarily die.

At this point whither we have just come, an important question presents itself; What is the cause of the diminution in the malignancy?

The cultivation of the parasite must necessarily be made in contact with the air, because this virus requires a certain amount of air to live. And it could not be developed without it. Hence it is very natural to ask at once, whether the weakening influence on the virus is not in the contact with the oxygen of the air. Is it not possible that the little organism constituting the virus, remaining in contact with the oxygen of pure air, in the medium in which it has just multiplied, should undergo some modification which would return permanently whenever the organism would be withdrawn from the modifying influence? We may, it is true, ask ourselves again if some principle of atmospheric air, besides oxygen, some chemical or fluid principle, might not intervene in the accomplishment of the phenomenon, whose incomparable strangeness authorizes all sorts of suppositions.

It is easy to understand that the solution of this problem, in case it should follow from our first hypothesis, that relating to the influence of the oxygen of the air, is easy enough to ascertain, for if the oxygen of the air is the modifying agent of the malignancy, we may very likely find a proof of it in the result of the suppression of oxygen. With this intention, let us make our experiments in the following manner: A convenient quantity of hen's broth being sowed with the most malignant virus, let us fill with it glass tubes to one-third, to three-fourths, etc., of their volume; then let us close these tubes in the flame of a lamp. By the help of the small quantity of air left in the tube, the development of the virus will take place, a circumstance which the eye can perceive in a perturbation of the liquid; the progress of the breed soon absorbs all the oxygen contained in the tube. Then the perturbation ceases, the virus deposits itself on the walls of the tube, and the liquid becomes clear once more. This requires two or three days. The little organism is henceforth protected from the contact of oxygen and will remain in that state as long as the tube remains closed. What will its virulence become this time? To secure a greater certainty in our experiments we shall have a number of similar tubes, and at the same time an equal number of flasks of the same cultivation freely exposed to the contact of pure air. We have mentioned what becomes of the

samples exposed to the contact of the air; we know that they undergo a progressive diminution of their virulence; we will not repeat it any more. Let us mention only the sealed tubes protected from the air. Let us open them. Of the one after an interval of a month, and after having reared a crop by sowing a portion of its contents, let us try the malignancy; of the other also, after an interval of two months, and in this manner a third one, a fourth one, etc., after intervals of three, four, five, six, seven, eight, nine, ten months. This is where I stop. It is remarkable as the experiment proves, that the virulences are always similar to those of the virus which serves in the preparation of the sealed tubes. But for the samples exposed to the air, we find that they are dead by this time, or possessed of the feeblest malignancy.

The question proposed to us is accordingly resolved; *it is the oxygen of the air which weakens and destroys the malignancy of the virus.* Very likely there is here something more than an isolated fact; we are doubtless in possession of a principle. We have reason to hope that an inhering action of the oxygen of the air, a natural force present everywhere, will show its efficacy on all other viruses. It is, in any case, a circumstance of interest the possible extensive generalization of this method in order to diminish the virulence of diseases, borrowing its virtue from an influence in some sort atmospheric. Have we not a right to presume, from this day, that we must refer to this influence, the limitation of great epidemics in our days as well as in the past? The facts which I have just had the honor to present to the Academy, suggest numerous inductions, proximate or remote. I will believe myself authorized to publish them if I succeed in turning them to demonstrated truths only.

H. D. V.

EXPERIMENTS ON THE CERVICAL PORTION OF THE SYMPATHETIC.

A Note of Messrs. Dastre and Morat, presented to the Institute, by M. Gosselin.

All that is known of the functions of the sympathetic nervous system is based, almost exclusively, on two experiments of Parfour du Petit (1727), and those of Cl. Bernard and Brown-Séquard (1851). Parfour du Petit demonstrated the ascending direction of the nervous fibers in the cervical portion, a purely

anatomical fact. The experiments of Cl. Bernard show the *vaso-constrictor* nerves contained in the cervical sympathetic, whose office is to constrict the blood vessels. The facts which we communicate to the Academy complete these notions and demonstrate the existence of *vaso-dilator* nerves in the same, which antagonize the preceding.

The experiment which establishes this result is that of Cl. Bernard itself, which was a repetition of Parfour du Petit's. Cl. Bernard stated that physiologists before him, as well as himself, for some time, had repeated the famous experiment of Parfour du Petit without discovering its most striking result; it is our turn to add that every physiologist has repeated Cl. Bernard's experiment without discovering its most striking result, at least whenever it is performed on the animal most experimented on, the dog. While all current notions were prevailing against our investigation, the chain of our experiments led us to the discovery of truth.

Here it is. Whenever the cervical sympathetic is irritated, there is produced a primitive dilatation, immediate, often enormous, of the blood vessels in the corresponding half of the buccal cavity, that is, in the mucous membrane of the palate, the gums, the lips, and in the integument of the lips and cheeks; in the blood vessels of the upper and lower jaw. The redness becomes intense, and other signs of the dilatation of the vessels appear, as heat, tumefaction, straightening and *umbilication* of the hair. All this is limited to that half of the face corresponding to the irritated nerve. They disappear almost immediately after the irritation has ceased. A definite line separates the scarlet-red region from the pale side, and what makes the phenomena still more remarkable and significant is, the paleness of other organs of the same side, the ear and half the tongue, while those alluded to above are red and congested, in such a way that the contrast in the color of the two sides of the tongue is the reverse of the contrast between the colors of the two sides of the buccal cavity and renders it more striking. These phenomena constantly recurred in our experiments, and are so evident as to be worthy of demonstration before a class, under favorable conditions, that is, provided the mouth be slightly pigmented, the nerve in a con-

dition of rest, and the animal be quiet, or rendered motionless by a small dose of curare.

Were these experiments less evident, their result would be called paradoxical, since they are exactly opposed to the current notions based on the experiment of Cl. Bernard and Brown-Séquard. But, we hasten to say, that it does not contradict that famous experiment more than the latter did that of Pourfour du Petit; they simply complete it. The researches which we pursued since four years, regarding the innervation of blood vessels, led us to the discovery of the first cutaneous vaso-dilator ever announced, that of the ear; and we found it in the sympathetic. In the same manner, we found in the sympathetic the dilators of the lower extremity, of the upper extremity and various viscera; finally, the origins of the dilators of the bucco-labial region. It was while pursuing the course of the latter that we came to the cervical sympathetic. We knew already that they did not belong to the superior maxillary, which Jolyet and Laffont called, wrongly, a typical dilator, that they did not belong even to the nervous system of vital relations, since they were traced to the ganglion of Vieussens, and must be found in the sympathetic of the region of the neck.*

Regarding the sympathetic, Bichât contended that the passions were located in the organs of organic life, and R. M. Bucke, of London, Ontario, asserts that the moral nature of man is seated in the sympathetic system. The close relation between emotional changes and functional derangements of the various viscera led to this idea. "There is nothing new under the sun." Aristotle taught that man had three minds, one of which was seated in the abdomen. The notion that the heart presides over feelings is deeply rooted in the Christian mind, and probably refers to the sympathetic, since nerves alone are capable of sensation. Mr. Rabinowicz translates thus an article of the *Talmud* of Babylon: "The kidneys give advices, the heart understands, * * the liver is the seat of anger, the gall-bladder throws bile on the latter and calms it, the spleen is the seat of laughter," etc.† It is a fact that diseases of the heart are often simultaneous with ex-

* *Revue Médicale*, 30 Oct., 1880.

† *L'Union Médicale*, Oct. 28, 1880.

alted sentiments, that a fit of passion reacts strongly on the circulation, etc. It is also believed by some, that the faculties of the brain are perfected at the expense of a fineness of sentiments. Persons noted for the soundness of their judgment are generally well known for their rudeness, lack of sympathy and of imagination. It would be worth while to examine the sympathetic at autopsies, on the insane, especially the melancholy, and compare the relative development of the same set of nerves in individuals of different temperaments.

M. Foster, in his Text Book of Physiology, third edition, p. 183, says: * * "Division of the cervical sympathetic on one side of the neck causes a dilatation of the minute arteries of the head on the same side, shown by an increased supply of blood to the parts." Then it may be questioned whether the *irritation* (*excitation*) of the French experimenters did not simply incapacitate the nerves, as after section. P. 440, ib, " * * * the numerous phenomena of disease, joined to the facts mentioned above, turn the balance of evidence in favor of the view that some more or less direct influence of the nervous system on metabolic actions, and so on nutrition, will be established by future inquiries."

ACTION OF CARBOLIC ACID UPON CILIATED CELLS AND WHITE BLOOD CELLS. (*Am. Jour. of Med. Sciences*, Jan., 1881.)

Since as far as statistical data are reliable, the results of operations, except in certain classes of cases (ovariotomy, etc.) are equally good in the hands of those surgeons who use carbolic acid as a dressing agent only, as in the hands of those who adhere strictly to the Listerian doctrines and details, it is a matter of interest to know just what may be the effect of carbolic acid, in varying degrees of strength, upon living tissue. Its beneficial effect may be largely due to its direct action upon the tissues of the healing wound. For experimentation, ciliated and white blood cells were chosen by Dr. T. M. Prudden, since in these the effect of carbolic acid upon the vitality of cells could be most easily seen. He used solutions of varying strength, from 1-20 to 1-3200.

The most extended series of experiments was made upon the tissues of the frog; and less extended ones upon the blood of the rabbit and man. The result of the experiments shows that "carbolic acid in solutions of 1-100 and over, causes either immediately, or in a short time, cessation of vibration in living ciliated cells, with a rapid, characteristic disintegration of their protoplasm and death of the cell." With solutions of 1-50, the ciliary movement ceases in a few seconds, the movements becoming gradually slower and slower. If the movement of the ciliæ is languid, it is temporarily quickened when the acid is first brought in contact with the cell. As the ciliæ cease their motion, degenerative changes occur in the protoplasm of the cells. It is resolved into two kinds of material—one clear, transparent and feebly refractive; the other strongly refractive, appearing as shining globules. "The nucleus shrinks, not infrequently exhibiting, as it does so, distinct movements in the intra-nuclear network; and especially noteworthy in solutions of this strength is the development in a large number of the cells, within a few minutes, of a wedge-shaped, more or less refractive, sharply outlined network, extending from the ciliary border to the nucleus, within which are sometimes seen delicate parallel lines, perpendicular to the free border of the cell. This peculiar network, lying invariably between the ciliary border and the nucleus, and never extending below the latter, would suggest a difference in the structure of the protoplasm in this part of the cell which is not without significance in view of the present uncertainty of our knowledge concerning the relations between the ciliæ and the nucleus and cell body. The shining globules tend to coalesce and gather outside the cell body within the first forty-eight hours."

"In very diluted solutions (1-400 to 1-3200), carbolic acid may cause, if long continued, slight degenerative changes in the protoplasm and the death of the cell; but its most noteworthy action is its inhibitory effect upon ciliary movement. This may be retarded by it, or even entirely checked, without necessarily determining the death of the cell, for on its replacement by an indifferent fluid, the movement may be perfectly re-established and continue indefinitely." These phenomena seem equally true

of cells observed *in situ* and of those scraped from their place and teased apart.

The white blood cells were examined, not only when removed from the vessels, but also in the vessels of the tongue, mesentery and bladder of the frog. If the white corpuscles, while being examined in the glass slide, be irrigated with a 1-100 solution, amœboid movement ceases almost instantly, and very soon the protoplasm breaks up into larger and smaller strongly refractive granules or globules, and a finely translucent substance which retains the form of the shrunken cell. The nucleus is more or less jagged in its outline. With weaker solutions the same phenomena are to be observed, but they are developed much more slowly.

If those which have been treated with weak solutions, and whose movements have been stopped, are washed clean with a neutral solution, the movements will usually return.

If a freshly exposed bladder be irrigated with a solution 1-50 to 1-100, it soon becomes cloudy, and stasis will occur almost immediately in the capillaries, gradually extending to the smaller and larger veins and arteries. The red blood cells lose their symmetrical form, becoming permanently cut and curved and occasionally swollen. Sometimes they will cling closely to the sides of the vessel. To these others are joined in little heaps, thus partly blocking up the tubes, or, instead of being thus piled up, the red cells may lie along the wall, side by side, in a single or double layer, thus making a cylindrical investment around the blood current, which still flows, but with impaired velocity. Gradually, however, more and more accumulation takes place, until, finally, the current is stopped. Thus thrombi and emboli are formed partly, as is evident by changes in the red blood cells. The white cells, under these circumstances, do not collect in the peripheral zone of the current, but are mingled indiscriminately with the red ones. They invariably retain their round form. This condition, which has been called "globular stasis," does not undergo resolution, if far advanced.

With solutions of 1-800 to 1-3200 there seems to be no tendency to stasis or thrombosis. If a solution of 1-1600 be used, there is a slight dilatation of both arteries and veins, which seems

permanent as long as the part is exposed to the carbolated solution. No change in the capillaries is observed. The current is also at first slightly accelerated, but then becomes slower than normal, and so continues. At first the normal peripheral and axial currents are observed. A greater or less number of white blood cells may be seen rolling or gliding along the walls and even adherent to them. Soon, however, the peripheral zone becomes less and less distinct, and the axial becomes broader. The white cells, which were at first attached to the walls, are loosened, and are carried off by the current. Those which drag along the periphery are mostly globular, and exhibit but slightly the well known appearance of stickiness. This condition lasts as long as the carbolated solution is applied, but the normal phenomena will return if the carbolic acid be washed off with an indifferent fluid. No structural changes could be seen in the white blood cells which had been rendered quiescent in the vessels by solutions as diluted as 1-1600.

It is, therefore, evident that even weak solutions of carbolic acid have the power of checking the emigration of the blood cells; and thus a "part of its favorable action in restraining suppuration may be accounted for, at least in so far as pus is the result of the emigration of the blood cells."

SURGERY.

SURGICAL ANALGESIA. Dr. Bossis. (*Le Praticien*, Sept. 20, 1880. Page 454.)

Under the name of surgical analgesia Dr. Bossis describes insensibility to pain, accompanied by persistence and followed by the integrity of the intellectual faculties and consciousness; it is easily obtained by injecting 15 milligrams of morphine and inhaling twenty minutes after a very little chloroform. Here are the conclusions of M. Bossis:

1. There can be obtained in man, with a little attention, by the combined action of chloroform and morphine, a state of complete insensibility to pain, with the conservation at least partial of his intelligence, tactile, auditive and visual sensibility, and

voluntary movements. We propose to call this state *surgical analgesia*.

2. In a practical point of view the analgesia obtained by the combined action differs completely from the semi-anæsthesia obtained by chloroform or ether employed alone, in that it is not preceded nor accompanied by a period of hyperæsthesia, with violent excitation and tendency to the exaggeration of reflex action of the heart, and, in consequence, syncope. The anæsthesia is quite comparable to the period of tolerance of chloroform employed alone.

3. This procedure, joined to the benefits of the combined action, in the initial period, has the great advantage of avoiding the dangers which accompany or follow complete anæsthesia.

4. Thus far the employment of analgesia has proven quite free from danger. However, before the question is definitely settled, new researches are needed; awaiting the advantages which it promises this study merits the attention of surgeons.

SURGICAL TREATMENT OF HYPERTROPHIED PROSTATE. (*Le Praticien*, Sept. 20, 1880. Page 453.)

M. Lefevre, of Louvain, uses in this affection so rebellious to treatment, a compressor with two branches. The one is introduced like a catheter by the urethra; the other enters the rectum; the two branches are articulated after the manner of forceps, and allow one to subject the largest portion of the gland to the effect of an intense compression. M. Lefevre also uses a catheter provided with a reservoir of oil, which on account of this abundant lubrication on the spot, allows the instrument to readily pass into the bladder.

PRACTICAL MEDICINE.

LACTIC ACID IN CHRONIC CYSTITIS. (Deecke, *Revue de Thér. Méd-Chir* and *L'Union Méd. du Can*, Oct., 1880. Page 447.)

Of all the acids which Dr. Deecke has tried in the treatment of chronic catarrh of the bladder, lactic acid appears to him to be the most efficacious, and to give the most durable results. His formula is as follows: lactic acid, 1 to 2 grams, sweetened

water q. s. Dissolve. To be taken three times a day. The sweetened water may be replaced by butter-milk or a bitter infusion. The lactic acid is found in the urine after the ingestion of three or four grams. It arrests rapidly the ammoniacal decomposition of urine in the bladder as well as outside of this organ, dissolves the salts which abound there, destroys the microscopic vegetables which develop there, and in consequence acts efficaciously upon the catarrh of chronic cystitis.

CHLORAL AS AN ANÆSTHETIC FOR CHILDREN. (M. Rédiér. *L'Union Médicale du Canada*, October, 1880. Page 459.)

The author remarks that children enjoy a peculiar tolerance of chloral by which they are able to bear four or five grams several days in succession, while the same dose would be badly supported by adults.

The doses, which appear necessary and sufficient to produce anæsthesia, are: from two to four years, 2 grams; from four to eight years, 3 grams; from eight to twelve years, 4 grams. The best mode of administration is a potion of 100 grams of equal parts of water and syrup of gooseberries taken at one dose fasting. It is best not to proceed to an operation (such as an extraction of a tooth, opening of an abscess, etc.) for an hour or an hour and a half after the beginning of the sleep, the anæsthesia being more complete after a certain time. The duration of the sleep is from four to five hours.

Chloral has been employed as an anæsthetic for long and painful operations, such as the correction of vicious attitudes and ankyloses (Bouchut); and even for an operation for hare-lip in a child of six years, to whom $2\frac{1}{2}$ grams of chloral had been given.

NOCTURNAL TERRORS IN CHILDREN. (Steiner. *Jour. de Méd.*, Sept., 1880. Page 414.)

The child generally awakes suddenly from one to three hours after going to sleep, with symptoms of the greatest terror; the face is agitated, the heart beats violently, the pulse is animated; not recognizing anything around, it remains deaf to the reassuring exhortations lavished upon it. Such is the expression of terrible

anxiety it manifests, that all its senses appear to be riveted to the impression produced upon it by some terrifying image; this tableau lasts a quarter of an hour, twenty minutes and even more; then the child becomes a little calmer, recognizes the persons around it and gradually falls asleep again under the influence of the reassuring words it hears, to awake in the morning lively and well, and unable to remember what has happened during the night. These nocturnal attacks present many different degrees as to violence and duration not only in different children, but also in the same child at different times; thus it may happen that the child awakes with a start, utters some loud unintelligible sounds, stares around with a frightened look, trembles slightly with its hands and feet, and in two or three minutes falls asleep, after which follows profuse sweating; in other cases the attack lasts an hour or more. The attack is often followed by copious evacuation of urine destitute of qualitative alterations. Rarely there are two or three attacks in a single night; in these cases ordinarily the fits are mild; the paroxysms are repeated sometimes in following nights, but generally there are intervals of weeks or even months. In none of his cases did Steiner discover convulsions.

Most of Steiner's cases were among children from three to six years of age, consequently in subjects past the period of dentition; worms could not be accused of being the cause, nor could gastric troubles, such as diarrhoea, etc. These cases were nearly all in children who were pale and anæmic or rachitic and scrofulous of which they bore the marks; added to this there was an exaggerated nervous excitability to which it is logical to relate the described manifestations.

The prognosis in the majority of cases is favorable; by improving the general nutrition and bringing to bear suitable physical and moral treatment, the trouble will disappear without leaving any traces. It is only when the paroxysms come on frequently and violently that this complex of symptoms should be regarded as the precursor of a grave cerebral malady and be treated as such.

The state of the general nutrition, of the physical and psychological education of the child should be especially inquired into. All

sorts of emotions should be proscribed, and especially terrifying emotions, emanating from exciting stories calculated to inflame the imagination of children. In case of frequent returns of the attack, the use of bromide of potassium associated with a feeble dose of hydrate of chloral at night, is particularly recommended (after West).

MORBID SWEATING. M. Bouveret, (*Jour. de Méd.*, Sept., 1880, p. 408.)

M. Bouveret, who has just been nominated *professeur agrégé* of the Faculty at Lyons, after a remarkable concours, has given a high degree of interest to the difficult subject treated in his thesis for the position. We mention a few of the most interesting points practically.

He mentions some very remarkable cases of ephidrosis or local sweating, generally but little known, but which are nevertheless important. For example, sweating of the legs, mentioned by Verneuil as a frequent sign of profound varices. There is a notable and habitual increase of the sweat, which is often accompanied by itching, eczema and erythema; the fact is important to note in the diagnosis of deep varicose veins which is often difficult.

Another singular example of local sweating is parotidian ephidrosis; it occupies quite exactly the region of the parotid gland, is not continuous, but generally intermittent and only appears at the time of eating, during mastication. The sweating sometimes extends beyond the parotid region, and is seen on the neighboring parts and even over a considerable portion of the face. In all the cases an injury is met with at the beginning of the trouble, a wound or opened abscess of the parotid gland. The duct of Steno is most often closed, but the phenomenon is not due to a transudation of the saliva as one would suppose. It is really a local sweating of reflex origin. Like that of the parotid region the facial ephidrosis is often reflex, and due to excitation of the nerves of taste.

The hypersecretion sometimes extends over the entire face, sometimes it remains unilateral; it has been seen exactly limited

to the region of the face supplied by the superior maxillary branch of the trigeminal. DeGraefe has seen four cases of palpebral ephidrosis. The skin of the eyelid presented a well marked hyperæmia, and on this red spot, when examined by a lens, one could see, in case of an effort or an emotion, a clear fluid escape from a multitude of little orifices. Ephidrosis finally may occupy one entire side of the body.

An habitual general hyperidrosis or hypersecretion may show itself in variable etiological conditions generally but little known, but among these hyperidroses, one of the most interesting is that of the menopause, which M. Liégeois has just studied very completely. It is a fact well known that at the epoch of the menopause, women are subject to flashes of heat and sweating; but what is less known is, that these sweats, though independent of any other affection may become morbid. It may not be the case always of women who no longer have their courses; the hyperidrosis may come earlier and appear at that period when the near approach of the menopause announces itself already by certain irregularities of menstruation. It is not always a passing convenience; M. Liégeois cites several cases where women were affected by it for several years; he was able, however, in most cases, to check it by the use of atropine. In most of these patients the hyperidrosis appeared especially towards the end of the night. M. Liégeois advises the administration of atropine some hours before the expected return of the sweating. Half a milligram is a sufficient dose; it is well to continue the medicine several days after the cure.

Beside these different forms of morbid sweats, M. Bouveret has studied those which are characterized by a peculiar color. Chromidrosis, for example, or blue sweat, so rare that its existence has been denied by many authors, is nevertheless a scientific fact. Like sweating of blood, this singular alteration of the sweat appears most often among that set of symptoms which characterizes the neuropathic state, hysteria. Frequently violent moral emotion is the occasional cause of it; nearly always the eyelid is first attacked, and by preference the lower one; the blue sweat may however appear in other regions, the feet, the axilla, the

epigastrium, the forehead, the cheeks ; the ears are always spared. Sometimes the blue coloration extends over large surfaces ; sometimes it is developed in little patches of the integument. The color varies from blue to black, passing sometimes to deep violet. The abnormal secretion proceeds by successive attacks, returning at variable intervals, generally preceded, as in the first attack, by disorders of the menstruation, by local derangements of the circulation or of sensibility. The coloring matter which gives the special aspect to this secretion is analogous to indigo, and its secretion seems to be produced under the influence of a vasomotor trouble.

The same is true of hematidrosis, a phenomenon very much discussed and of which the labors of M. Parrot especially have clearly shown the nature.

The sweating of blood which shows itself nearly always in hysterical women, may occupy very variable extents of the integument, sometimes oozing out in droplets, sometimes in the form of fili-form jets ; the liquid is composed of blood containing all its elements. It is intermittent, proceeds by steps, coincident with painful eruptions of the skin. These hæmorrhages are never alarming from their abundance ; moreover the fluxes of blood in hysteria often enjoy the singular privilege of not compromising the health or the life by reason of their quantity for the hematidrosis should be regarded as a sort of hæmorrhagic hysteria, all the more as it accompanies, in many cases, hæmorrhages of the stomach, of the uterus, of the bronchia, of which the neuropathic nature can not be doubted ; its existence, on the contrary, is doubtful except in hysteria.

We cannot dwell longer upon the different parts of the interesting work of M. Bouveret ; we mention only that one chapter is consecrated to treatment in which the remarkable and nearly constant effects of atropine, administered according to the method of M. Vulpian, are clearly demonstrated. It is also shown that in a good many diseases, far from respecting profuse sweats as a useful symptom, on the contrary, one should combat them ; this should be done especially in acute articular rheumatism, where the abundant sweats may be suppressed without inconvenience.

HYDROPHOBIA. (Bouley. *Hygiène pour tous*, and *L'Union Méd. du Canada*.) Oct., 1880, p. 448.

On the occasion of a very interesting report of a case of hydrophobia, by Prof. Haveley to the *Acad. de Médecine*, M. Bouley, inspector general of the veterinary schools of France, formulated this great truth :

"*The best way to prevent attacks of this redoubtable malady is to understand it.*"

This knowledge, the readers of *Hygiene for All* will have the good fortune to owe to M. Bouley himself, who has kindly authorized our editor-in-chief to reproduce the *résumé* of his work on *Hydrophobia*, the means of avoiding its dangers, and of preventing its propagation.

Here is the tableau of the characters of hydrophobia, as the eminent professor of the museum has so ably indicated them.

I. The madness of the dog is not characterized by fits of fury in the earlier days of this manifestation. On the contrary, it is a disease of benign appearance at first; but from its beginning, the saliva is virulent, that is, it contains the inoculable germ, and the dog is then much more dangerous from the caresses of its tongue than it may be from its bites, for it has as yet no tendency to bite.

II. At the beginning of its madness, the dog changes its temper; it becomes sad, sober and taciturn, seeks solitude and retires into the most obscure corners. But it cannot remain long in one place; it is unquiet and agitated, comes and goes, lies down and gets up, roams around, smells, hunts about, scratches with its fore feet. Its movements, its attitudes and its gestures seem to indicate that, for the moment, it sees phantoms, for it bites the air, springs forward and howls as if it were attacking real enemies.

III. Its look is changed; it expresses a sombre sadness and something of the ferocious.

IV. But in this state the dog is not at all aggressive toward man; its character is what it was before. It is docile and submissive to its master, whose voice it obeys, showing some signs of gaiety which bring back, for an instant, the usual expression to its physiognomy.

V. Instead of aggressive tendencies, they are often the contrary, which are manifested in the first stage of madness. Affectionate sentiments toward its masters and familiars about the house are exaggerated in the mad dog, and it expresses them by repeated movements with its tongue, with which it is eager to lick the hands or faces of those it can reach.

VI. This sentiment, very highly developed and very tenacious in the dog, dominates it so much, that in many cases it respects its masters, even in a paroxysm of rage, and so much that they, moreover, preserve great control over it, even when its ferocious instincts commence to manifest themselves and the dog abandons itself to them.

VII. The mad dog has not a dread of water; on the contrary, it is eager for it. As long as it can drink, it satisfies its thirst which is always great; and when spasm of its fauces prevents its swallowing, it plunges its nose into the water and bites, so to say, the liquid which it is unable to swallow. The mad dog then is not *hydrophobic*; *hydrophobia* is not then a sign of madness in the dog.

VIII. The mad dog does not refuse its food in the first period of its malady; often even it eats more voraciously than usual.

IX. When the desire to bite, which is one of the essential characteristics of the disease at a certain stage of the development, begins to manifest itself, the animal satisfies it at first upon inert bodies. It gnaws the wood of doors and of furniture, tears clothes, carpets, shoes, grinds straw, hay, hair, wool, between its teeth, eats the ground, and the dung of animals, even its own etc., and accumulates in its stomach the débris of everything with which its teeth have come in contact.

X. The abundance of the saliva is not a constant sign in the mad dog. Sometimes the mouth is moist, sometimes dry. Before the period of fits, the secretion of saliva is normal; it is exaggerated during this period and dries up at the end of the disease.

XI. The mad dog often expresses the painful sensation it feels from spasm of the fauces, by making with its forefeet on each side of its cheeks the peculiar gestures which a dog does in whose throat a bone is lodged.

XII. In a peculiar variety of canine madness which is called

dumb madness, the paralyzed lower jaw is separated from the upper one, and the mouth remains open and dry with a brownish red color of the mucous membrane which covers it.

XIII. In some cases the rabid dog vomits blood which comes, in all probability, from wounds of the stomach caused by the sharp bodies which it has swallowed.

XIV. The voice of the rabid dog always changes in *timbre* and its bark is always completely different from its usual manner. It is rough, husky and is transformed into a jerky howl. In the variety called dumb madness this important symptom is lacking. The disease receives its name from the absolute dumbness of the patients; *dumb or mute madness*.

XV. The sensibility is very much diminished in the mad dog. When struck, or burnt, or wounded, it utters no complaints, nor cries by which animals of his species express their sufferings or even their fears simply. There are cases where the rabid dog makes deep wounds upon itself with its teeth, and assuages its rage upon its own body, without seeking to injure the persons with which it is familiar.

XVI. The mad dog is always very violently impressed and irritated by the sight of an animal of its own species. When it finds itself in the presence of one or hears its barking, its rabid fury is manifested, if it was still latent, or develops and increases if it was already declared, and it springs toward it to tear it with its teeth. The presence of the dog produces the same impression on animals of other species when they are under the influence of rabies; so that it is correct to say that the dog fills the office of a reactive agent, by the aid of which one may nearly always, with very great surety, bring out the madness still concealed in an animal which has it.

XVII. The rabid dog often leaves its home at the moment when, in the progress of its malady, ferocious instincts develop in it and begin to dominate over it; and after one, two or three days of wandering, during which it has sought to satisfy its rage upon all living beings which it has encountered, it frequently returns home to die with its master.

XVIII. When the madness has arrived at its period of fury, it is characterized by the impression of ferocity which it gives to

the physiognomy of the affected animal, and by the desire to bite which it satisfies every time an occasion for it is presented; but it is always against one of its species that it directs its attacks by preference to any other animal.

XIX. The rabid fury is manifested by fits, in the intervals between which the animal, exhausted, falls into a state of relative calm which may cause a doubt as to the nature of its malady.

XX. Healthy dogs seem to be endowed with the faculty of divining the rabid state of an animal of their species, and, instead of quarreling with it, they seek to escape its attacks by flight.

XXI. The rabid dog when free, attacks first, and with great energy, all living beings it may meet with, but always by preference a dog rather than other animals, and these rather than man. Then, when it has exhausted its fury by its attacks, it goes forward with a vacillating gait, with tail pendant, head inclined toward the ground, its eyes looking wild, and mouth open, from which escapes the bluish tongue covered with dust. In this state it does not have very aggressive tendencies, but it still bites everything, man or beast, that comes in its way.

XXII. The mad dog which dies naturally succumbs to paralysis and asphyxia. Up to the last moment, the instinct to bite controls it, and it should be feared even when exhaustion seems to have transformed it into an inert body.

XXIII. At the autopsy of a rabid dog there is nearly always seen in the stomach, a conglomeration of incongruous bodies, such as hay, straw, hairs, wool, shreds of cloth, pieces of leather, remnants of twine, tow, excrements, earth, leaves, grass, stones, everything which by their presence together, have a great probative value of the existence of rabies in the animal in whom found.

XXIV. The surest means of preventing the effects of rabic inoculation is immediate cauterization, preferably with the red-hot iron, or lacking this, gunpowder or caustic agents. The sooner this cauterization is made the more one can count on its efficacy.

XXV. If the cauterization cannot be made immediately after the bite, one should, while waiting, wash out the wound, press very energetically to squeeze out the blood, sucking the wound,

rejecting very quickly the fluid drawn by the mouth, compress very tightly its edges continually, and apply if possible a circular ligature to arrest the circulation of the blood.

ON THE PRESENCE OF CERTAIN PROPORTION OF PRUSSIC ACID IN THE SMOKE OF TOBACCO, AND THE EXISTENCE OF A NEW ALKALOID. By Le Bon. (*J. de Therap., Sept. and Oct., 1880.*)

The smoke of tobacco contains nicotina, carbonate of ammonium, various tarry substances, coloring matters, prussic acid combined with bases, aromatic principles strongly odoriferous and very toxic, aqueous vapor, various gaseous compounds, especially oxide of carbon and carbonic acid (carbonic anhydrid).

The toxic properties of tobacco smoke do not depend merely on nicotina, but on prussic acid, several aromatic principles, on a special alkaloid, *collidine*, a liquid with an agreeable odor, strong, and imparting to the smoke its peculiar odor, as much deleterious as nicotina.

But the vertigo, headaches and nausea, caused by various tobacco samples lacking in nicotina, are owing to prussic acid and various aromatic principles. Nicotina is not destroyed by the combustion of tobacco, and can be found largely in the smoke. The smoke of tobacco contains about 8 liters (17 lbs.) oxide of carbon for a 100 gr. (22 lbs.) of smoked tobacco; but the toxic qualities of tobacco are not owing to this gas as some German writers held.

The most certain results on man of the smoke of tobacco are visual troubles, palpitation, a tendency to vertigo, and specially an impaired memory.

DR. VIART read a paper at the academic seance of November 9, on The Treatment of Diphtheria. It is thus recapitulated:

1. Diphtheria (*angine couennense*) is a disease local at first, and most often becoming general only after the fourth or sixth day. A certain set of symptoms characterize it: *i. e.*, a brisk appearance of a false membrane in the throat, without pain nor any general reaction; a peculiar course, and the curability of the disease before it has become general. In twenty-six cases in

which the throat was cauterized after the removal of the false membrane, Dr. Viart obtained twenty-six cures.

2. The parts through which the disease makes its entrance are most always the free surface of the tonsils; yet, in children, it may start in the larynx, producing croup, which is very rare in the adult.

3. *Course*.—It is divided in two periods: the first extending to the sixth day, during which the disease can be destroyed *in situ*—it is the curable period; the second extends from the sixth to the tenth or twelfth day; the disease has been absorbed in the organism—it is the stage of danger.

4. This being agreed upon, it is wise to intervene, as soon as the disease is diagnosed, with an energetic local treatment and general treatment also; during the dangerous stage, an exclusively general treatment has to be relied upon; yet if it is not evident that the constitution is already affected, cauterization should be had recourse to even then, since it could do no harm.

5. The local treatment advocated by Dr. Viart, consists in the violent (harsh) destruction of the false membrane, with the index finger, wrapped in a piece of linen, and pushed into the pharynx with some amount of friction, and a cauterization of the bleeding surface with nitrate of silver. This treatment should also be accompanied by the use of chlorate of potassium internally and topically, the use of alcoholics, and a sustaining diet.

MENTAL STATE OF THE EPILEPTIC.

There are 40,000 epileptics in France, of which number 4,000 are in asylums, and 36,000 at large. Trousseau said, in 1855: "This is the disease most generally overlooked." There are several classes of epileptics: 1. The true epileptics; 2. Giddy epileptics; 3. Mental (larvés) epileptics; 4. Alcoholic epileptics. We will treat of the first three categories.

1. *Epileptics, properly so-called*.—There are three varieties of them: (a.) Those whose intellect is not impaired; (b.) Those whose intellect is impaired momentarily; (c.) Truly insane epileptics.

In the first, most interesting and least studied class, the patient remains intelligent; nay, some may have their mental power

unusually developed. Famous instances are on record: Julius Cæsar, Petrarca, Newton, and Molière himself, seemed to belong with these.

The epileptic who commits a crime, obviously is not always irresponsible; before rendering a judgment in the matter, one must inquire into the mental state of the patient, whether he has more or less persisting troubles of the intellect.

2. *Giddy epileptics*.—After a simple vertigo, they may commit the most inexplicable crimes. There is a suspension of the function of the cerebrum lasting five or six seconds; a *between-the-acts* in their existence; after this is over, the epileptic often ends the sentence which he had begun before the attack, and is unconscious of the latter.

Following the crisis, the patient may utter nasty expressions, or he may have momentary cerebral disorders. It is hard to persuade law courts that a man in this condition may unconsciously do something immoral. This is called absent mindedness, an appropriate term. It is in such circumstances that some epileptics steal from the counters, even in the presence of guardians; others scald their hands in boiling water.

Trousseau had noticed two phases of epilepsy only: the giddiness, and the fit. Herpin, Voisin, Legrand du Saulle, have described the incomplete fit; an intermediary state; the patient stops, turns his head toward one side, his face becomes expressionless, red, and the muscles are contracted; the patient produces motions of deglutition; there is no initial yell, nor fall. The incomplete fit lasts from fifteen to twenty seconds; patients call it false fits; it is a prelude to a greater fit.

A patient, having had an incomplete fit, does not remember the facts; he thinks that he witnessed something horrible. A typical sign is, an unceasing repetition of the same word, peculiar to epilepsy alone; at times this may be obscene; it may take place during the night only.

Epileptics' impulsions are well known. These are mental acts consisting in an impulse to commit thoughtless actions. This is observed besides in hereditary mental diseases. It is quick, imperious, thoughtless, impressive; a kind of mental convulsion, which is controlled by bromide of potassium.

True epileptics, giddy epileptics with partial attacks, are given to anger, to egotism; they love nobody, make it their aim to molest others, and are incapable of a pleasant action. They sometimes have an instinctive wish to run away, and they follow a straight direction; one of the most typical symptoms. Sometimes they have a sort of indescribable wrath. The furious excesses of epileptics resemble those of the maniacs; they crush everything in their way, and whenever they strike or kill, they multiply their strokes to an incredible amount. The epileptic tears his victim piece-meal, as no body else could do. Epileptics sometimes have a pathological religiousness; they have sacred visions, and then their hallucinatory character becomes absolutely mystical.

3. *Mental epileptics (larvés).*—These have eccentric characters. They have partial eclipses of intellect, with a sort of periodical course, and always do the same things in the same manner. It is, so to speak, a new photographic proof taken at each repetition of their fit. They have also automatic movements, but no peculiar accident of the body. This has been called mental epilepsy, by the Americans. The manifestation is wholly mental; it is a disease of the intellect. They do presumptuous actions; they abandon their position, change religion, take strange resolutions. If they remain long under observation, one will notice the periodicity of these fits. All this disappears under the use of bromide of potassium. This is a partial disease, the same as some eruptive affections without eruption, *variola sine variolis*. Crimes committed without any motive essentially belong to epilepsy.

Hippocrates, referring to *morbus sacer*, speaks of strange patients, having no fit, yet rushing out of their beds and running out at night. It seems from this that he knew mental epilepsy. Lasègne and Legrand du Saulle came across a striking example some years ago. A divorce *a toro* was asked for by a woman who complained that her husband (at night) would rise without any cause,* and would run out bare-headed and bare-footed even if it was freezing cold. Once he was away for eighteen months; another time he went aboard a ship at Havre, and found out what

* Le Praticien, 18 Oct., 1880.

he had been doing after reaching Bombay. This man, when questioned about his actions could not tell how they could happen so. It was evidently mental epilepsy; besides these singular impulses, his manners had nothing odd nor remarkable.

SIMULATIONS OF VENEREAL OUTRAGES ON YOUNG CHILDREN.
(*L'Union Méd.*, Nov. 6, 1880.)

A great deal of interest was manifested some time ago, in a paper read before the Academy of Medicine of Paris, by A. Fournier, with the above title. The author describes how he succeeded in exacting the truth from a little girl, and saved the reputation of an innocent victim. He recapitulates thus his considerations:

1. A certain number of facts exist, to which we may give the collective name of *simulation of criminal outrages on young children of the feminine sex*. These facts summarily consist in this: an artificial production on a little girl of lesions of the vulva which should resemble those of an outrage; and imputation of such an outrage to an imaginary author, for the benefit of the simulator.

2. Clinically, it is not impossible for these *artificial* lesions to betray themselves through some peculiarity, or some local incident. But this would be a fortuitous case; and, in principle as well as in practice, we know of no clinical symptom sufficient to differentiate with certainty an inflammation of the vulva occasioned by friction, from one resulting from a criminal outrage.

3. In cases of this class, the discovery of simulation will not depend so much on clinical phenomena as on other signs foreign to the medical art; the attitude, answers, hesitations, contradictions of the child, the antecedents of the simulator, various circumstances of the cause, etc.

4. That in case the physician, even while discharging his duty, should happen to discover the truth, he has more than a right, but it is a duty for him to overthrow a criminal accusation, and preserve the honor, the liberty, and the interests of an innocent individual.

5. It is important for the security of everybody, and to preserve the dignity of the profession, that in such affairs, the phy-

sician should issue certificates stating the lesions observed only when required to do so by a competent authority whose duty it is to get them; and it is not less important that, in that kind of certificates, the physician should confine himself to the description of the lesions observed, without venturing into the etiological interpretation of these lesions, which interpretation can hardly ever be inferred from the symptoms.

6. Various moral motives serve to inspire simulators in these cases. One of the most general is a monetary speculation, which is called *chantage au viol*, (black-mail) appropriately.

7. Lastly, inflammations of the vulva of various origins, most always spontaneous, have often been the basis of accusation of outrages; and it is not unusual that these illegitimate imputations have seemed justified, either by the unconscious answers of sham victims, or even by the false depositions of prematurely corrupted children.

TREATMENT OF WHOOPING COUGH BY THE INHALATION OF SPIRITS OF TURPENTINE. By Dr. Baréty (of Nice). (*L'Union Méd.*, Nov. 4, 1880.)

About four years ago, I had to treat three children suffering from whooping cough in the same family. I was treating them with the common remedies, emetics, extr. of belladonna, syrup of codeia, etc., but without any marked result, when at the time when the spasms recur most frequently, I had an opportunity to make a most interesting discovery.

One of the children, precisely the one most severely attacked, was put to bed in a room recently painted, which gave a strong odor of oil of turpentine. From that time it happened that the crises became less intense and less fatiguing, and that the disease was much shorter in this case than in the others.

This occurrence impressed me vividly, and I did not doubt that the rapid improvement must be referred to the oil of turpentine which, escaping from the fresh paint, pervaded the atmosphere of the room and was breathed by the young patient. Accordingly I resolved in the future to try inhalation of spirits of turpentine. This I had opportunities to do many times successfully.

Here is my *modus operandi*: I fill two deep plates half full with spirits of turpentine; I place one of them under the bed and the other in a corner of the room.

The child, or children, sleep in that room saturated with vapors of the spirits of turpentine, and spend a part of the day in it.

The spirit is renewed every time it is expedient. The air is renewed in the room once or twice a day.

The crises of spasms rapidly diminish, the disease takes a very mild character and hardly lasts a month on the average.

SALT AS A PROPHYLACTIC IN DIPHTHERIA.—In a paper read at the Medical Society of Victoria, and published in the *Australian Medical Journal* for June, 1880, "On the Free Use of Salt as a Prophylactic against Diphtheria," Dr. Day stated that, having for many years past looked upon diphtheria in its early stage as a purely local affection, characterized by a marked tendency to take on putrefactive decomposition, he has trusted most to the free and constant applications of antiseptics; and when their employment has been adopted from the first and has been combined with judicious alimentation, he has seldom seen blood poisoning ensue. In consequence of the great power which salt possesses in preventing the putrefactive decomposition of meat and other organic matter, Dr. Day has often prescribed for diphtheritic patients living far away from medical aid the frequent use of a gargle composed of a tablespoonful or more of salt, dissolved in a tumbler of water; giving children who cannot gargle a teaspoonful or two to drink occasionally. During the prevalence of diphtheria he recommends its use instead of sugar in the food of children, adults using the gargle as a prophylactic, three or four times a day.—*Medical and Surgical Reporter*.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, Feb. 7 and 21.

West Chicago Medical Society—Mondays, Feb. 4 and 28.

Biological Society—Wednesday, Feb. 2.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Prof. Holmes; 3 p. m., Otological, by Prof. Jones.

Mercy Hospital—2 p. m., Surgical, by Prof. Andrews.

Rush Medical College—2 p. m., Dermatological and Venereal, by Prof. Hyde.

Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.

Mercy Hospital—2 p. m., Medical, by Prof. Quine.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.

Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, by Prof. Jenks.

Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.

Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.

Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn; 3 p. m., Orthopædic, by Prof. Owens.

Chicago Medical College—2 p. m., Surgical, by Prof. Isham; 3 p. m., Neurological, by Prof. Jewell.

Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.